an instant help book for teens

the chronic pain & illness workbook for teens

cbt & mindfulness-based practices to turn the volume down on pain

* **break** the **pain cycle**
* **feel better**
* **get** your **life back**

RACHEL ZOFFNESS, PHD
FOREWORD BY ELLIOT J. KRANE, MD

"This workbook is stronger and more effective than any medication I know of for treating chronic pain."

—**L. Stephen Long, MD**, pediatric anesthesiologist; medical director of complex pain, UCSF Benioff Children's Hospital Oakland

"Although there are a few excellent resources for parents on how to understand and help their child with chronic pain, until the publication of this book, there were no equivalent books for the teens themselves struggling with this problem. This practical workbook by a highly experienced clinician helps reframe chronic pain for teens who are struggling with it, and offers accessible strategies that they can use to help themselves. Although its tone is casual and friendly, the advice offered is highly sophisticated and evidence-based without being pedantic. One can almost hear Dr. Z's soothing, optimistic, and experienced voice emerge from the pages to say, 'Here are things you can do to help yourself. We can get through this.' Words that are truly welcome to the frustrated, often hopeless, teens struggling with chronic pain. It contains numerous scenarios, examples, and scripts that ring true, and are easily adaptable to the situations of most teens and their families. The additional materials that can be downloaded to support this volume are an added bonus. One can foresee that the use of this workbook will soon be a standard recommendation by pediatric pain clinics across the country, and it will be a valuable resource for teens in the throes of this challenging problem."

—**Neil L. Schechter, MD**, director of the Chronic Pain Clinic at Boston Children's Hospital; associate professor in the department of anesthesiology at Harvard Medical School; and coeditor of *Pain in Infants, Children, and Adolescents*

"This phenomenal workbook aimed at strategies for empowering teens with chronic pain to take control of their path toward well-being is based on both clinical experience and a foundation in science. Rachel Zoffness has created a strong self-help workbook that is a 'must-read' and 'must-use' for all youth suffering from chronic pain. It is a highly impactful workbook for any teen with chronic pain and for their parents."

—**Lonnie Zeltzer, MD**, former director of the University of California, Los Angeles (UCLA) pediatric pain and palliative care program; UCLA distinguished professor in the department of pediatrics, anesthesiology, psychiatry, and biobehavioral sciences; pain researcher; and author

"I was sure that I would spend the rest of my life miserable with migraines, yet you taught me how to cope with pain rather than wallow in it. I can't express in words how much you helped me. You gave me the hope to start striving to live my life with or without chronic migraines."

—Teen chronic pain survivor and cognitive behavioral therapy (CBT) program graduate

"Rachel Zoffness's workbook is an engaging how-to manual for teens struggling with chronic pain. She presents concepts in a down-to-earth way that will help youths master the techniques necessary to improve their function, decrease their pain, and, most importantly, get their lives back. It reinforces many of the themes we emphasize in our clinics. It will be a great resource for our patients!"

—**William T. Zempsky, MD, MPH**, head of the division of pain and palliative medicine at Connecticut Children's Medical Center, and professor in the department of pediatrics at the University of Connecticut School of Medicine

"This is a terrific and engaging workbook for teens with chronic pain that provides instruction in core behavioral and cognitive skills for pain management. Rachel Zoffness masterfully uses humor and patient stories that should appeal to teens who are either using this workbook independently or with a therapist. It is a must-have addition to the pain practitioner's library."

—**Tonya M. Palermo, PhD**, professor in the department of anesthesiology and pain medicine at the University of Washington; clinical psychologist; author of *Cognitive-Behavioral Therapy for Chronic Pain in Children and Adolescents*; and coauthor of *Managing Your Child's Chronic Pain*

"This workbook is an outstanding and much-needed self-help guide for youth who are suffering from chronic pain. Dr. Z uses teen-friendly language to explain how the body feels pain, and to teach ways to manage pain and help teens take charge of their lives. Each chapter builds new coping skills with engaging exercises and examples. There are so many choices to pick from so that teens should have no trouble finding their own favorite set of skills! Parents and pain clinicians will undoubtedly learn a lot from this workbook as well."

—**Susmita Kashikar-Zuck, PhD**, professor in the department of pediatrics at the University of Cincinnati College of Medicine and Cincinnati Children's Hospital Medical Center; licensed clinical psychologist; and nationally recognized researcher in pediatric pain

"Every teen who struggles with chronic pain and illness will find something helpful in *The Chronic Pain and Illness Workbook for Teens*. The author speaks to teens with understanding and compassion while presenting practical and effective methods to help teens suffer less. I highly recommend this highly readable book on a topic that receives too little attention."

—**Michael A. Tompkins, PhD, ABPP**, codirector of the San Francisco Bay Area Center for Cognitive Therapy; assistant clinical professor in the department of psychology at the University of California, Berkeley; and coauthor of *The Relaxation and Stress Reduction Workbook for Teens*

"Teenagers have a hard time dealing with chronic pain. This interactive, educational workbook will significantly help teens understand and manage their pain. It is a unique and valuable resource."

—**Myles B. Abbott, MD**, general pediatrician in Berkeley and Orinda, CA; clinical professor in the department of pediatrics at the University of California, San Francisco (UCSF) School of Medicine; and former board member of the American Academy of Pediatrics and the American Board of Pediatrics

"What a fantastic resource for anyone caught in the miserable 'stuckness' of chronic pain! With her innately fearless, humorous, and eminently readable voice, Dr. Z leads her readers on the journey to discovering their own fearlessness in the face of debilitating pain."

—**David Becker, MD, MA, LMFT**, behavioral pediatrician; clinical professor in the UCSF department of pediatrics; and co-medical director of the UCSF IP3 Pain Management Clinic

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RACHEL ZOFFNESS, PHD

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To the amazing teens who walk through my door showing bravery and determination in the face of pain. You are the reason I do what I do!

To Victor and Marie-Helene Yalom, beloved mentors and friends, who provided countless hours of invaluable support and consultation; to Amanda Silver, my soul sister; and to the memory of Marjorie and Norman Alexander, who are always with me.

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Foreword

Benjamin Franklin said the only things certain in life were death and taxes, but he could more accurately have said pain, death, and taxes. Pain is one of the most certain things in life unless you are unlucky enough to be born with the rare condition in which pain does not exist, the congenital indifference to pain. Unlucky because we need pain to survive; it alerts us to life-threatening danger.

So there is a fascinating philosophical paradox: why does something without which we will certainly die early give us so much misery and suffering? One answer is that pain in fact does not have to give us unending, unmanageable misery and suffering. And there is the crux of Dr. Zoffness's book, lessons on how to tame pain with your brain: how to turn down the volume; how to redefine the meaning of pain from something terrible and fearful to something protective; in short, how to learn to coexist with pain, if medical science cannot make it go away. And sadly, medical science is a long, long way from making illness painless.

Chronic pain, the subject Dr. Z focuses on, is pain that lasts for several months or more. That children and young adults should suffer from chronic pain is a terribly unjust thing. Therefore to give children the tools to manage their pain, to master their pain, is a noble undertaking; it is righting a terrible wrong. And here is how Dr. Z does it:

The first chapters take on the very common misperception that the body and the mind are two different things. This wrongful way of thinking is a holdover from the mid-seventeenth-century thinking of French philosopher René Descartes, who believed that humans had minds or souls that were completely distinct from their bodies. But modern philosophers and scientists understand that in fact the mind and the body are one. They are inseparable; they are both the result of cells working together, chemical reactions, energy. And they influence and even control

each other in the most powerful and profound ways. The mind can turn the intensity of pain up or down, and the body exerts an equal effect on the mind, sometimes distorting thoughts, riling emotions, depressing moods. To understand that the mind is part of the body, and that the mind can change the body and how it feels, is the first and perhaps most critical step to understanding that the mind can be a tool with which pain can be not just understood, but controlled, and perhaps eliminated.

And that leads to the following chapters by Dr. Z—how to use the power of the mind and its emotions to control the experience of pain. She explores coping; setting goals for school and play; relaxation strategies; mental imagery; mindfulness and meditation; lifestyle; and very importantly, thoughts: what thoughts are, where they come from, the effects of negative thoughts and positive thoughts. Her advice on lifestyle includes ideas about work/play balance, exercise, and the importance of sleep, nutrition, and friendship.

This book is not a diagnostic aid, nor is it a substitute for medical care; there are doctors and surgeons for that job, and they should be used. But rarely can the best medicines and doctors eliminate chronic pain. What one needs then are the strategies that Dr. Zoffness brings to this book. When medical and surgical care cannot stop pain cold in its tracks, what are you going to do? Are you going to crawl into bed, turn on your laptop, and give up? Or are you going to master your pain and your life, and get on with the things that are important? With this book, Dr. Zoffness shows the way to begin the mastery of pain, to learn how to put it in its proper context and place, and when necessary, to coexist with it.

—Elliot J. Krane, MD

Professor, Departments of Anesthesiology, Perioperative & Pain Medicine, and Pediatrics

Stanford University School of Medicine

Introduction and Welcome

Oh, hello!

My name is Dr. Rachel Zoffness—call me Dr. Z!—and I'm a clinical psychologist. I work with teens coping with pain and medical issues. Helping teens find their way back to health is one of my favorite things. (I also really like raptors and ice cream, but that's not what this book is about.)

This workbook is for any teen who's ready to learn how to cope more effectively with pain and illness, as well as providers working with chronic pain clients just like you. The main goals of this workbook are to

- help you regain control of your brain and body (they're yours, take 'em back!);
- reduce pain intensity and frequency, and reduce the impact of illness on your life;
- manage triggers so that you have fewer episodes and flare-ups;
- teach you to cope more effectively with pain episodes once they start;
- improve your quality of life, so you can live a life you love even if you have pain.

You can start achieving these goals by learning to be the boss of how you think, feel, and act in response to pain and illness.

Sometimes teens with chronic pain wonder if this workbook, cognitive behavioral therapy (CBT), or mindfulness has been recommended because they're "crazy" or "it's all in their heads." The answer is *no*! You aren't, and it isn't. Your pain is real, and it can be confusing when a doctor or health provider suggests that you'd benefit from therapy. Here's why this workbook can help: because research shows that medical treatment, while important, often isn't sufficient on its own. How you feel physically and how you feel emotionally are inextricably intertwined: each

affects the other, all the time. In fact, pain is *always* influenced by thoughts and feelings! You'll soon learn about your "pain dial," the pain-control center that lives in your brain and spinal cord and controls pain volume. This book will give you tools to turn the volume down on pain and regain control of your body.

Because some people don't understand pain, they can attach stigma and shame to therapy or a workbook like this one. But just as going to the gym to exercise your body doesn't necessarily mean there's something wrong with your body, going to therapy to exercise your mind doesn't mean there's something wrong with your brain! Rather, it's the opposite: exercising your body makes you stronger and healthier, just as therapy, or brain exercise, makes your mind stronger and healthier. Moreover, if it's okay to use crutches when you break your leg, it's certainly okay to use a "pain coach" when you have pain or illness. Just as a soccer coach helps you get better at soccer, a pain coach—like a therapist, or this workbook!—can help you get better at coping with pain.

Pain and illness take away your power. It's time to take that power back. In this book, you'll learn all sorts of skills and facts: the purpose of pain, how the brain works, and how changing thoughts and emotions can change your pain. (*What!* Yes, it's true.) These skills will give you more control over your body so that pain and illness have less power over your life. The most important thing for you to know is this: the more you use this book, the more you'll get out of it. *It only works if you work it.*

The activities in this book are rooted in research, fun to learn, and easy to practice. Some will resonate with you more than others, so find the ones that are best for you. There are also activities and references available for download at the website for this book: http://www.newharbinger.com/33522. I'll be with you every step of the way, rooting for you!

Chapter 1

Pain and Your Brain

What Is Pain?

The generally accepted definition of pain is "an unpleasant sensory and emotional experience." This means that pain is both physical *and* emotional, 100 percent of the time. It is never just one or the other.

Pain = Physical + Emotional

In fact, if pain weren't horrible, it wouldn't get your attention—and that is pain's job. Pain that isn't bothersome fails to change your behavior enough to protect you. Consider the words used to describe pain and health conditions; for example, I describe my chronic leg pain as burning, shooting, miserable, and frustrating. What words describe your pain?

_____

_____

Did you use both physical and emotional words in your description, like I did? That's because pain isn't just physical—it's also emotional! Not convinced? Consider this: rather than having a single "pain center" in your brain, you have multiple sites that contribute to the experience of pain. These include the parts of your brain responsible for:

- emotions (limbic system)
- thoughts (cerebral cortex)
- attention (prefrontal cortex)

This means that how you *think and feel* significantly affects your experience of pain, not just some of the time—but all the time. In fact, you hurt more when you're stressed, scared, angry, or sad.

What's the Point of Pain?

We can all agree that pain isn't much fun. Why do we even have pain?

Pain is your body's *warning system*. Pain tells you when there's a threat to your safety or well-being. It tells you when you've stepped on a nail and need to pull it out, to run from a hive of wasps after you get stung, and to rest after hitting your head during a football game. By giving you unpleasant feelings, pain buys you time to heal and teaches you to avoid dangerous situations. Believe it or not, pain is a good thing. It's your body's way of keeping you safe and alive. In fact, pain is essential for survival.

How Pain Works

Even though we experience pain in our bodies, pain is actually processed in the brain. Your brain is part of your *central nervous system* (CNS), which is made up of your brain and spinal cord. There is always two-way traffic in the spinal cord sending information up from body to brain, and back down from brain to body.

Here's how this works: Receptors in your body pick up information about things like movement, texture, temperature, and pressure from the world around you. This information is sent up your spinal cord to your brain. Your brain then interprets these signals and decides how to respond. Is it an emergency, or a false alarm? Do you need to run, duck, hide, or stand still? Or can you do nothing and go about your day? If there's a good reason to think that protection is required, *your brain makes pain*. Even if there isn't an actual threat to your safety, as long as you *believe* you're in danger, your brain will try to protect you. Put another way, pain is not an accurate indicator of tissue damage. It is an interpretation, your brain's best guesstimate based on available information.

Say, for example, you break your ankle after tripping on a run. Receptors in your body send *warning messages*, alerting your brain to possible danger—from your ankle—up through your spinal cord—to your brain. This information is shared with various parts of the brain, including your emotion center, which all work together to reach a conclusion about context (fell on concrete!), how to interpret the warning messages (injury!), what to do (stop!), and what you're feeling (PAIN!).

The brain then sends signals back down to your body, saying: "*Danger! Pain!* Yeeeouch, stop running!" This pain response protects your body and prevents further damage to bone and tissue. Pain is *adaptive*—that means it helps us survive. It may sound wonderful to never feel pain, but without it, you'd have seriously damaged your leg on that run, because you wouldn't be motivated to stop.

But ongoing pain and health issues can also be a pain. They can make us feel stressed, anxious, angry, and sad. They can get in the way of doing things we want to do. They can stop us from seeing friends, playing sports, going to school, even going outside.

Types of Pain

Pain comes in all shapes and sizes. Some pain comes and goes quickly. This type of pain is called *acute* pain. Other pain is stubborn and hangs around for a while. If pain endures beyond expected healing time, typically defined as three to six months, it's called *chronic* or *persistent* pain. Both acute and chronic pain can be anywhere in your body—head, leg, kidney, elbow.

But do not despair, my friend…you're on the right path! Understanding pain is the first step toward managing pain. Read on!

Pain Questionnaire

To get a better picture of your pain, complete the following questionnaire.

Circle the condition(s) you are coping with and use the blank lines to add others.

abdominal pain/GI condition

anxiety

amplified pain (amplified musculoskeletal pain syndrome [AMPS], including complex regional pain syndrome [CRPS], fibromyalgia, neuropathic pain, myofascial pain)

autoimmune disease

back pain

blood disease

cancer

cardiovascular disease

cerebral palsy

chronic fatigue

cystic fibrosis

depression

diabetes

headache

liver or kidney disease

Lyme disease

migraine

neurological disorder

neuromuscular disease

pancreatitis

post-concussion syndrome (PCS)

postural orthostatic tachycardia syndrome (POTS)

respiratory condition

rheumatological disease

sports injury

seizure disorder

sleep difficulties

traumatic brain injury (TBI)

_____

_____

_____

(For a more complete list, see http://www.newharbinger.com/33522.)

When did your pain or illness start? _____

What triggered it?

_____

_____

How often do you have pain (for example, once a month, once a week, all day)?

_____

What's your average level of daily pain on a scale of 0 to 10? (0 = none, 5 = moderate, 10 = severe)

_____

What's your average mood on a scale of 0 to 10? (0 = saddest you've ever been, 5 = neutral, neither happy nor sad, 10 = happiest you've ever been)

_____

What's the *lowest* your mood reached in the past two weeks on a scale of 0 to 10? (0 = saddest you've ever been, 5 = neutral, neither happy nor sad, 10 = happiest you've ever been)

_____

How high is your stress about pain or illness and the impact it's having on your life? (0 = none, 5 = moderate, 10 = extreme)

_____

How well are you coping with pain, and the issues that come with it, on a scale of 0 to 10? (0 = not coping well, feel like I'm crashing, 5 = getting by; sometimes I can cope, sometimes I can't, 10 = thriving even though I have pain)

_____

Which aspects of your pain or illness are most difficult to deal with? (Circle all that apply and use the blank lines to add others.)

physical

emotional

missing school

missing friends

falling behind socially

falling behind academically

giving up hobbies

impact on sleep

changes in mood and stress

staying home and inside

impact on family

medications and doctor's appointments

surgeries or medical procedures

_____

_____

The Brain Learns Pain

Your brain is *amazing* at learning. If you want to become good at something—playing checkers, riding your bike, drawing unicorns—just practice it over and over, and your brain will get better at it. For example, when I was twelve, I wanted to be a superb piano player. After a few months of practice, it was like my fingers knew the songs! I didn't need to think—my fingers just played the music. How did this happen? Well, the more I practiced, the more I used the "piano pathway" in my brain. Just as bicep muscles get bigger and stronger the more you lift weights, brain pathways also get bigger and stronger with use. So the more I used the "piano pathway" in my brain, the stronger that pathway got, and the better I became at playing!

What are some things you've practiced and become good at over time?

1. _____

2. _____

3. _____

Just as the brain can become good at piano, checkers, or unicorn drawing, your brain can also become really good at *pain*. When you have pain for weeks, months, and years, your brain "practices" pain.

The longer you practice pain, the more you use the "pain pathway" in your brain, and the bigger and stronger that pathway gets. The stronger the pathway gets, the better your brain gets at pain! When this happens, we say your brain has become *sensitive*. Your central nervous system (CNS; your brain + spinal cord) and peripheral nervous system (the rest of your body) can both become sensitive.

Your Body's Warning System

If you're sensitive to odors, you pick up faint scents that other people hardly notice, so smells seem magnified and you pick up on them more. Some animals, like dogs, are sensitive to sound—they detect sounds humans can't even hear.

Teens with chronic pain have become sensitive to *warning messages*. To you, these messages seem magnified, and your brain picks up on them more. When your pain pathway has gotten big and strong, pain volume is very "loud." Small signals from your body now sound—and feel—huge, so warning messages are interpreted as signs of danger even when your body is safe. In other words, your warning system has become highly reactive.

Chronic pain = False alarm

As with any alarm system, there can be false alarms. When you have chronic pain, your body's warning system "goes off" even when nothing's wrong—like when the fire alarm at school goes off even though there's no emergency. Sirens wail, lights flash…but no fire.

This is what happens when you have chronic pain. Your brain sounds the pain alarm, when in truth, despite your very real pain and discomfort, you're not actually in danger! These signals no longer serve as a warning, nor do they protect you. Your nervous system has simply learned to be good at pain, so your pain response is louder.

Activities That Hurt May Not Be Harmful

It's easy to believe that if something *hurts*, it's *harming* your body. Indeed, the pain system exists to tell us if and when something is wrong. But pain is not always an indicator of danger or harm. Let's define our terms:

> *Hurt*: the uncomfortable sensation of pain; for example, the hurt you feel after your brother pinches you.
>
> *Harm*: physical damage to your body; for example, the purple bruise left behind by that pinch, evidence of crushed capillaries.

When you have acute or short-term pain, "hurt" is an important indicator of danger. Take, for example, that broken ankle: If you try to keep running, your brain will respond with a strong message that says *stop!* This pain grabs your attention and tells you to sit and rest—because if you run on a broken ankle, you'll further damage the bones, muscle, and tissue in your leg, and significantly harm your body. With acute pain, hurt is typically a signal of harm.

However, when pain becomes chronic, it isn't always a reliable signal of danger or harm. Instead, you experience a false alarm that leads you to believe you're in danger, even when you're not. When you sense danger, your body responds with stress and fear. As you'll soon learn, stress and fear further sensitize your pain system, making pain worse.

For these reasons, it's important to understand that, when you have chronic pain, *the pain you feel isn't necessarily a signal that you're in danger of harm*. For example, going for a walk when you have daily migraines might hurt, but it isn't going to harm your head. Having a picnic in the park when you have fibromyalgia might hurt, but it will not harm your body. Riding a stationary bike when you're fatigued

and achy might make you feel tired, but it isn't harmful. In fact, the opposite is true: movement and exercise help retrain your pain system!

Before you can turn off this false alarm, you must first understand when you're at risk of actual harm—like stomach pain after eating something you're allergic to, warning you of a dangerous reaction—and when you're *not* at risk of harm, like while walking during recovery from complex regional pain syndrome (CRPS) and noticing pain in the affected foot. For many painful conditions and illnesses, like headaches, migraines, abdominal pain, irritable bowel syndrome, rheumatoid arthritis, post-concussion syndrome, fibromyalgia, CRPS, and other health issues, pain is *not* necessarily a signal that your body is in danger of harm.

How to Retrain Your Pain System

The good news is this: your brain and body are capable of change, and you can start rewiring your pain system…today! One way to help your sensitive nervous system is to *desensitize* it. When you desensitize your pain system, you reduce your level of sensitivity so that you feel less and react less.

Here's another way of thinking about it: When I was in high school, my friend's maniacal little brother loved to scare people. The first time he jumped out of the closet, I screamed and leaped three feet into the air. My heart raced, my eyes bulged, and my face turned tomato-red. I was terrified, and my reaction was huge. The second time, he managed to scare me again (how annoying). But can you guess what happened the four hundredth time he jumped out of the closet?

Nothing. Nothing happened. My heart didn't race, my eyeballs didn't bulge, I didn't become a tomato-face. I had no reaction at all.

This, my friends, is desensitization. Over time, I became less sensitive to his scare tactics, and got so used to him jumping out of the closet that it eventually stopped bothering me. My brain stopped reacting to him.

One way to help a highly sensitive nervous system become less sensitive is to gradually expose it to small (not big!) doses of activities and stimuli that initially get a big pain reaction, like walking with leg pain or studying with a headache, until over time the pain response gets lower…

and lower…

and lower…

until, like my brain, your brain just stops alarm-ing!

Over time, as you slowly get used to small amounts of activity and stimulation, your nervous system will desensitize. Your brain will learn that "hurt" doesn't necessarily mean "danger" or "harm." Pain and discomfort will go down. In this way, desensitization rewires your nervous system, turning the volume down on those big warning signals so that they're smaller and less loud.

Desensitization is a critical part of breaking the pain cycle.

An important way to accomplish this is by doing things: going outside, moving, seeing friends, and stimulating your powerful and amazing brain!

It sounds counterintuitive, I know. When you have pain, it's normal to think that you're supposed to stay home and rest. That's what most of us do in response to pain and illness. And it's true that sometimes you need short-term rest to recover from a procedure, sickness, or injury.

But staying home and not moving when you have chronic, long-term pain or illness is a *trap*. Missing activities for long stretches of time makes pain worse because your nervous system stays sensitized to, and focused on, the pain. The false-alarm system keeps shrieking loudly with nothing to control its volume. In fact, the longer you stay home and avoid activity, the longer your brain will stay in this sensitive, protective state, and the longer your pain will last.

Before learning to retrain your nervous system—and you will!—you first need to know how thoughts and feelings affect pain.

Thoughts and Feelings Affect Pain: Your Pain Dial

Pain processing is a complicated system. To help you understand it, here's an analogy: Imagine you have a *pain dial* in your CNS that controls pain volume. The function of this dial is to protect you from harm. Anytime your brain believes your body is in danger, the pain dial is turned way up, so pain volume is very

loud—loud enough to grab your attention and get you out of harm's way. However, if your brain determines that your body is safe, the dial is turned down—so pain volume is lower, and warning signals are quieter.

Body in danger = Volume turned up = Pain high

Body safe = Volume turned down = Pain low

Your pain dial can be turned up or down by multiple factors, including

1. stress and anxiety,
2. mood, and
3. attention.

Specifically, when you're feeling *stressed and anxious*—

your body is tense and tight,

you're having worried thoughts, and

you believe your body is in danger,

your cerebral cortex and limbic system (which control thoughts and feelings) send signals to your pain dial, turning it way up.

Your brain, interpreting this as an emergency, generates loud signals that sound like this:

PAIN!!!!!!!!!! PAIN!!!!!!!!!!

PAAAAAAIIIIIINNNN!!!!!!!!!!!!!!!

The pain dial is also controlled by negative emotions like sadness, anger, and frustration.

When your *mood* is low and thoughts are negative,

your brain amplifies pain signals

so that pain volume is pushed way up,

making pain feel worse.

This is also true when *attention* is focused on pain.

When you're home in bed,

missing school,

and focused on your pain,

your prefrontal cortex (which controls attention) sends signals to your pain dial

turning it way up,

making pain feel worse.

But have no fear…the opposite is also true!

When *stress and anxiety* are low—

you're feeling relaxed,

your thoughts are calm,

you believe your body is safe,

your cerebral cortex and limbic system send signals to your pain dial,

lowering the volume on pain,

so that pain feels less bad.

And when your *mood* is high—

you're engaged in pleasurable activities,

your thoughts are positive,

and you're feeling happy,

your brain determines little protection is needed

so pain volume is reduced.

And finally, when you're *distracted*—

your attention is focused on things other than pain, like watching funny movies with friends and shoving your face full of popcorn,

the pain dial is pushed down!

Pain volume is reduced, making pain feel less bad.

This means that when you're *relaxed, happy, distracted, and believe your body is safe*, pain is quieter. Signals sound like this:

PAIN. PAIN.

PAIN.

The pain is still there—it hasn't magically disappeared—but it *feels less bad*.

This means that thoughts, beliefs, and emotions can adjust pain volume.

It worked this way for Nicolette:

Nicolette, a star athlete, had double-knee surgery. Her daily pain was a ten out of ten. She was on crutches for months, sidelined from sports, and worried she'd never run again. One day, friends invited her over to watch funny movies. They sat together giggling, scarfing popcorn and chocolate, engrossed in the movie… and when the lights came on a few hours later, she stood and tried to walk because she'd completely "forgotten" about her pain! The combination of friends, distraction, laughter, and relaxation was like a magic medicine that turned down her pain dial without her even realizing it.

Describe a time when you were distracted, happy, relaxed, or having fun, and your pain felt a little less bad:

If your thoughts, beliefs, and emotions can amplify and muffle pain, *this means that you have more control over your pain than you realized!* In fact, you can take control of your pain dial by managing (1) stress, (2) anxiety, (3) mood, and (4) attention. Download this pain dial review at http://www.newharbinger.com/33522. Print a copy and put it on your fridge!

PAIN DIAL REVIEW

Volume high = Pain feels worse

Stressed or anxious

Body tense and tight

Worried thoughts

Believing your body is in danger

Negative mood

Attention focused on pain

Staying inside/in bed for long periods

Volume low = Pain feels less bad

Relaxed

Body loose and stress-free

Calm thoughts

Believing your body is safe

Positive mood

Distracted, attention focused elsewhere

Going outside, moving, and engaging in activities

Lower Your Pain Volume

To take power back from pain, brainstorm activities that improve your mood, relax your body and mind, and distract you. These will help reduce pain volume. In order to heal, your nervous system needs exposure to sunlight, real-world activities, and people, so try to choose activities that don't center on screens. See Lisa's example:

What lifts your mood?

Lisa's list:

1. reading Calvin and Hobbes
2. watching my cat try to figure out the dripping faucet
3. shopping with my sister Stacy
4. inviting friends over to make sundaes

Your list:

1. _____
2. _____
3. _____
4. _____

What relaxes your body?

Lisa's list:

1. a hot bath
2. going for a nature walk outside
3. getting a back massage
4. stretching and yoga

Your list:

1. _____
2. _____
3. _____
4. _____

What relaxes your mind?

Lisa's list:

1. telling myself that everything is going to be okay
2. imagining I'm at my favorite beach
3. listening to thunderstorms on a relaxation app
4. practicing mindfulness

Your list:

1. _____
2. _____
3. _____
4. _____

What distracts you?

Lisa's list:

1. puzzles and brainteasers
2. reading about hawks
3. drawing and painting
4. counting backward from two hundred by sevens

Your list:

1. _____
2. _____
3. _____
4. _____

Pain Dial Worksheet

List five things that *raise* your pain volume and make pain worse. Include activities and beliefs that make you feel stressed or worried, trigger negative emotions like sadness or anger, and focus attention on pain instead of away from it. See Chris's example:

Chris's list:

Five things that increase my pain volume:

1. when people ask about my pain (increased attention on pain)
2. doing nothing at home, especially when friends are having fun without me (high stress, low mood, increased attention)
3. a pile of work that feels too big to finish (high stress)
4. believing that leg pain means I'll never walk again (belief that my body is in danger, high stress, low mood)
5. when I stop playing baseball because I'm in pain (low mood, increased attention)

Your list:

1. _____
2. _____
3. _____
4. _____
5. _____

Now list five things that *lower* your pain volume. Include ideas from the last activity that lift your mood to make you feel happier, help you feel relaxed and calm, and distract you from pain. Remember, these activities don't magically cure pain; they simply turn down the volume on loud signals so that pain feels less bad!

Chris's list:

Five things that lower my pain volume:

1. reading a fun book (relaxed, good mood, distracted)
2. going for a walk in the sun and petting friendly dogs (relaxed, good mood, distracted)
3. eating ice cream with friends (relaxed, good mood, distracted)
4. watching baseball games under my favorite blanket (relaxed, good mood, distracted)
5. reminding myself that hurt doesn't equal harm (belief that my body is safe, relaxed)

Your list:

1. _____
2. _____
3. _____
4. _____
5. _____

Pain Control 101: The Biopsychosocial Model

The causes of—and most effective treatments for—chronic pain and illness are *biopsychosocial*. This means that there are three interconnected domains to target in order to feel better and get back to life: *biology* ("bio"), *psychology* ("psych"), and *social* functioning. Remember, your brain is always connected to your body, so emotional and physical health necessarily impact one another. The more pieces of this puzzle we put together, the better you're likely to feel!

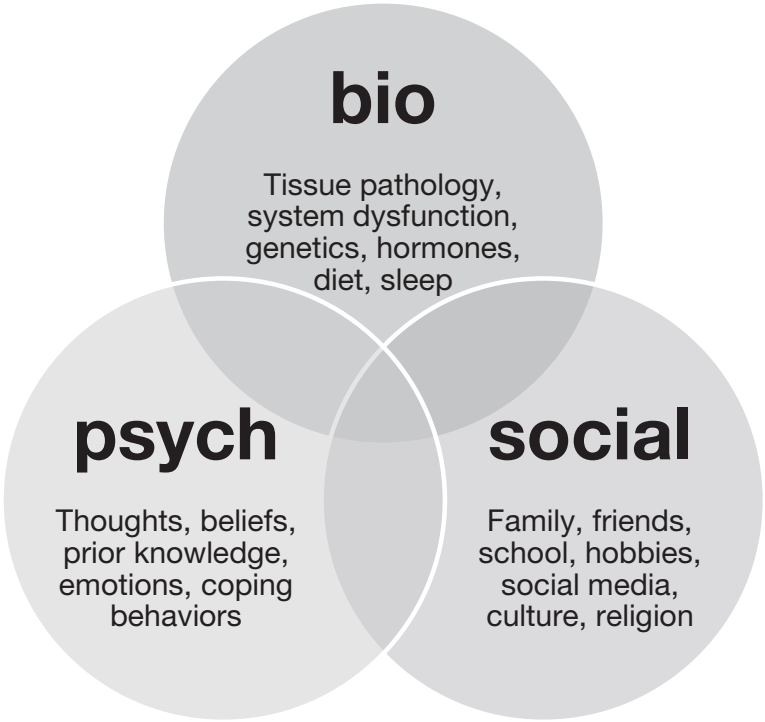

Figure 1. Biopsychosocial model

Biological components of health and wellness focus on pathology in tissues and the pain transmission system, genetics, and hormones, and are often treated with medical interventions. By now, you've probably found a stellar medical team, had multiple tests and procedures, and tried various medications.

Psychological components of health include emotions that turn up the pain dial like depression, anxiety, and helplessness that commonly—and understandably—occur when we're sick or in pain. This domain also addresses negative thoughts, beliefs, and predictions that frequently accompany pain, such as *I'll never get better* and *I can't do anything*, which make you feel worse. It also targets coping behaviors, or how you behave in response to pain and illness.

The third domain is *social*. Research shows that social support—or lack of it—can significantly impact pain and wellness. Social components of pain include family, friends, school, social media, community, and culture. For example, spending less

time with friends, missing school, falling behind, quitting hobbies and teams, and isolating at home are social factors that can exacerbate pain. When you improve your social functioning and quality of life, you also improve how you feel!

Conclusion

Once you realize that pain isn't always a sign of damage and may instead be a false alarm, you can start taking steps to get your life back. The biopsychosocial model of pain suggests that this is best done using medical interventions *plus* psychosocial strategies to target thoughts, beliefs, emotions, coping behaviors, and social functioning. Effective tools to retrain your nervous system and turn down your pain dial can be found throughout this book. You'll learn skills from cognitive behavioral therapy (CBT), mindfulness-based stress reduction (MBSR), and other scientifically supported approaches to help you gain power over pain and illness. These strategies will help you get back to doing the things you love! We'll start by learning about how emotions can change pain.

Chapter 2

Emotions and Pain

The Inextricable Link Between Physical and Emotional

The experience of pain is influenced by multiple parts of your brain, including your limbic system—your brain's "emotion center." This means that pain is never just physical, it's also emotional. To effectively treat pain, we must address thoughts and feelings in addition to physical symptoms.

Cognitive behavioral therapy (CBT) is a scientifically supported treatment for chronic pain and illness, sleep, depression, anxiety, and other issues. CBT teaches us that

how we *think*

affects how we *feel* (emotionally and physically), and

affects how we *act* (behavior).

These four things—thoughts, emotions, physical feelings, and behaviors—all influence each other, and also affect pain. These interconnected relationships are outlined in the CBT cycle diagram below.

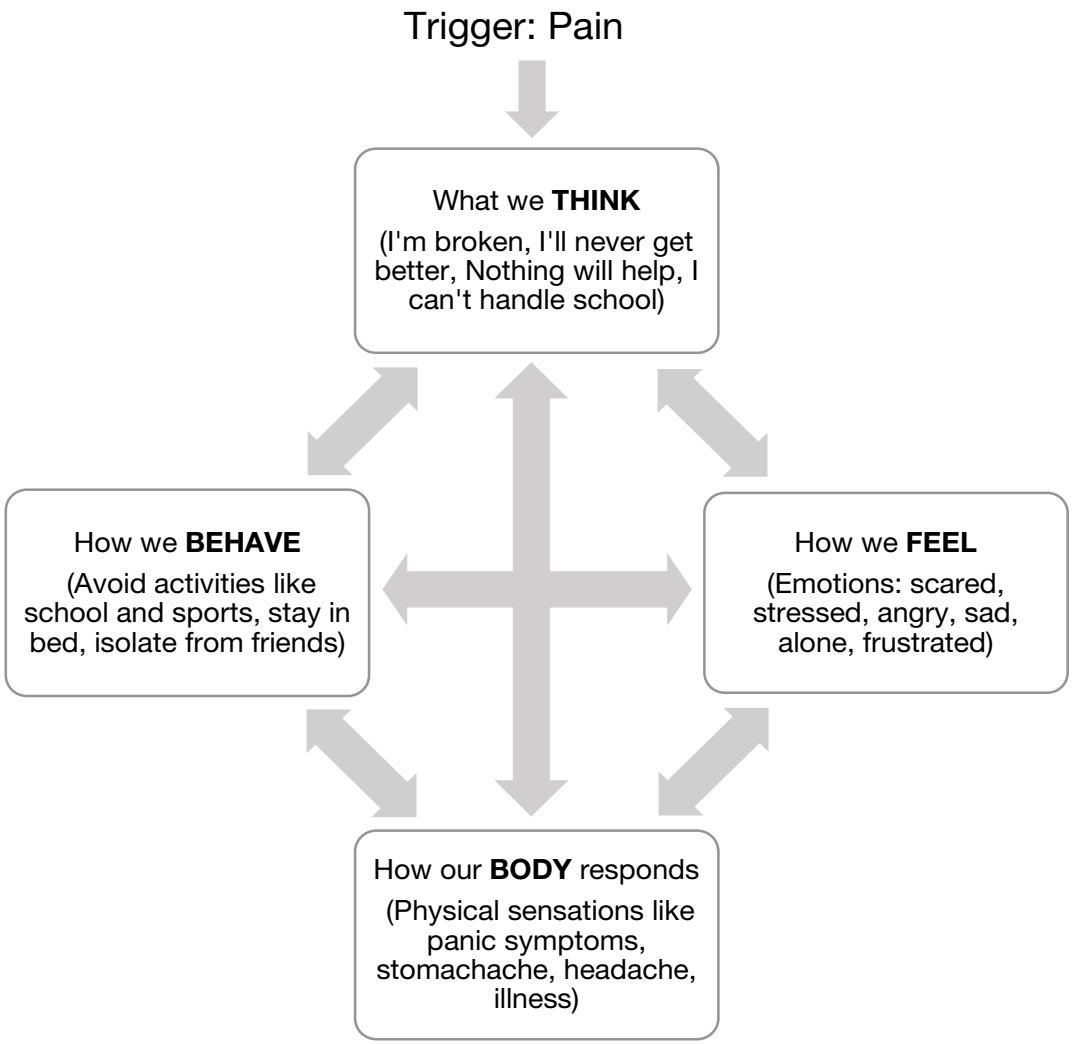

Figure 2. CBT Pain Cycle

The CBT cycle starts with a *trigger,* which is a difficult situation or event. Triggers can be anything from a pain flare-up to an argument with your brother. Triggering events then generate thoughts, feelings, body sensations, and behaviors, which all affect one another. For this example, our trigger will be pain.

Say you have a pain flare-up that prevents you from going to school on an important day. The next thing that happens is that your brain generates a thought. These thoughts happen so quickly that we call them *automatic*. With pain or illness, automatic thoughts are often (and understandably!) negative. Some common automatic

negative thoughts that occur when we have pain are *Nothing can help me*, and *I can't deal with this*. You'll learn more about these thoughts in chapter 5.

Negative Emotions Amplify Pain

The next step in the CBT cycle is to notice how these thoughts make you *feel*. Not surprisingly, negative thoughts lead to negative emotions. Thoughts about pain might make you feel scared, angry, or sad.

When you think about your pain or illness, what words describe how you feel? (Circle all that apply and add your own.)

angry	resigned	numb	grieving
upset	worried	guilty	unsupported
stressed	panicky	unmotivated	afraid
worried	sad	checked out	left behind
frustrated	dissatisfied	self-protective	invisible
annoyed	scared	stuck	alone
confused	ashamed	disappointed	tense
furious	avoidant	rageful	tearful
paralyzed	exhausted	hopeless	overwhelmed

Other words that describe how you feel:

_____

_____

_____

Emotions Live in Your Body

Here's an important thing to know about emotions: they aren't just in your head. Emotions also live in your body. For example, anxiety before a big test might come out as "butterflies," a stomachache, or even vomiting. When you're watching a scary movie, fear can come out as goose bumps, dry mouth, or a racing heart. Sadness can make you walk and talk slo-o-o-wly and make your body feel heavy. Stress can cause rashes or acne, trigger headaches and illness, and even make your hair fall out!

How do stress and anxiety come out in *your* body? (Circle all that apply and add your own.)

feeling like you're not getting enough air

bouncing legs, tapping feet, drumming fingers

biting nails, picking fingers

shallow or rapid breathing

dizziness

headaches

tightness in chest

desire to escape or avoid

dry mouth

sweating

light-headedness

irritability

fatigue, exhaustion

stuttering

muscle tension

rapid heartbeat

feeling edgy

feeling restless

butterflies

trouble making decisions

indigestion

stomachaches

nausea, vomiting

fidgeting, twitching

gassiness

trouble concentrating

blushing

acid reflux

mind going "blank"

talking fast

tight jaw, neck, shoulders

difficulty sleeping

rashes, hives, eczema, break-outs

cold hands and feet

trouble making eye contact

mind racing

high energy

difficulty finding words

gulping, swallowing hard

sweaty palms

trembling, shaking

trouble sleeping, night-awakenings

bloody nose

body or muscle pain

crying

weight loss or gain

grinding teeth

diarrhea, constipation

Other ways stress and anxiety come out in your body:

_____

_____

_____

Pain Causes a Mood Crash

Many people feel sad or depressed when they're sick or in pain. Being in pain is no fun. Just like stress and anxiety, sadness shows up in the body in many different ways.

How does sadness come out in *your* body? (Circle all that apply and add your own.)

crying, tearfulness

heavy feeling in body and limbs

walking and talking slower

sleeping more or less

less activity

lower motivation

feeling like you can't get up

loss of interest in activities

getting less pleasure out of things than you did before

urge to "hole up" or hide

fatigue, lethargy, physical exhaustion

change in appetite, eating more or less

decreased desire to go out or socialize

staying in bed or inside

isolating from friends

irritability

headaches

stomachaches, nausea, vomiting

diarrhea, constipation

muscle aches, joint pain, unexplained body pain

trouble concentrating

trouble making decisions

Other ways negative emotions come out in your body:

_____

_____

_____

Coping Affects Pain

The CBT cycle then spins back 'round: when we think negative thoughts and feel negative feelings, we then *behave*, or act, in certain ways. These behaviors are attempts to *cope*, or deal with, pain and illness. A behavior can be something we do—like going to the doctor—and it can also be something we stop doing. For example, some teens stop going to school because they feel sick and can't concentrate, or stop exercising because it hurts. Some stop seeing friends or make a completely new group of friends. Some dial back on hobbies and activities and spend extra time in bed.

What are some things you've started or stopped doing to cope with pain? (Circle all that apply and add your own.)

resting more	visiting doctors	going outside less
spending more time in bed	dropping old hobbies, picking up new ones	having less social interaction (fewer plans, activities, and parties)
taking medicine	missing school	using screens more
sleeping during the day	doing less homework	eating meals in bed
staying in pajamas during the day	taking part in fewer afterschool activities	exercising less

Other coping behaviors:

_____

_____

_____

Vampire Mode

What we *do* then circles around to affect how we *think* and *feel*, both emotionally and physically. Take a moment to consider what happens when

you stay home, day after day?

stop seeing friends?

miss school?

reduce favorite hobbies and after-school activities?

stop exercising and moving?

get less sunlight and fresh air?

You probably know: Your mood crashes! You start feeling miserable. Stress and anxiety spike as you fall behind socially and academically. As mood goes down and stress rises, *the pain dial is turned way up, making pain feel even worse.*

This cycle is familiar to Zia, a high school student who struggles with chronic head and stomach migraines. She calls her CBT pain cycle "going into vampire mode." Says Zia:

> *On bad pain days, the light hurts my eyes so I close the blinds to keep the sunlight out. I put on my favorite hoodie, climb into bed, and pull the covers over my head. I don't go to school because I'm in pain and can't concentrate. I stop seeing friends, going outside, and exercising. I dial back on hobbies like soccer and sewing. I feel like a vampire because I come out of my room only when it's dark. After a few days, my mood crashes and I start feeling depressed. This makes my head and*

stomach feel worse. My stress and anxiety skyrocket because I'm falling behind in school. The makeup work piles up—it's more than I can handle, and I feel like I'll never catch up. I start thinking I'm going to fail, that my bad grades will affect my chances of getting into college. Every time I think about school, my migraines spike.

On top of that, my friends are having fun without me. I worry about being left out of everything and losing them. The anxiety triggers nausea and I vomit. After a while, I feel like I can't go back to school because I'm so behind that I won't understand what the teacher is talking about. Plus, none of the kids understand what I'm going through. One of them even accused me of faking.

After a few weeks in bed, I have no motivation to leave my house. I'm miserable and my body feels weak. I start thinking that if my medications haven't worked yet, nothing will work. I start believing that the rest of my life is going to be like this, that I'll be in vampire mode forever, that no one and nothing will ever help me. The more stressed and sad I get, the worse my body feels.

If this sounds even a little bit familiar, you're in good company—this is a common example of how thoughts, feelings, and behaviors interact when teens are sick or in pain. But here's the good news: now that you're familiar with this cycle, *you have the power to break it*. That's exactly what CBT can help you do! As you learn about your own cycle of thoughts, feelings, and coping behaviors, you'll develop new skills to control your pain dial—just as Zia did (she's doing awesome, by the way).

Triggers: What Sets Off Your Pain?

The first step in this CBT cycle is to identify the things that trigger—or set off—your pain. A *trigger* is a difficult emotion, situation, or event that causes pain to increase. Difficult situations and events (*situational triggers*) can trigger difficult thoughts and emotions (*emotional triggers*), and vice versa. For example, Adam was recovering from back surgery. He got into a big fight with his sister about the car (*situational trigger*) and became angry (*emotional trigger*). He felt the anger in his body; his muscles got hot and tight and his back started spasming. Gina is an example of the reverse. She believed that nothing could cure her fibromyalgia, which made her feel depressed and hopeless (*emotional trigger*). She stayed home for weeks on end without school, friends, or distractions (*situational trigger*), and started feeling worse.

What *emotions* trigger your pain? (Circle all that apply and add your own.)

frustration

anger

stress

anxiety

loneliness

sadness

_____

_____

_____

_____

What *situations* trigger your pain? (Circle all that apply and add your own.)

not getting enough sleep

arguing with family members

having piles of homework

missing fun events because I'm sick

thinking about upcoming exams

doctors' appointments and hospital visits

_____

_____

_____

_____

Know Your Pain Recipe

Have you ever baked brownies? (Mmmm!) Baking requires following a specific, detailed recipe to get your brownies juuuust right. If you don't follow the recipe or skip steps, you'll have gross, not-delicious brownies, and nobody wants one of those.

Well, pain works the same way. Just as there's a recipe for brownies, there's also a recipe for pain. Your high-pain recipe is a list of all the ingredients, or triggers, that go into creating a high- pain day. These can be situations, emotions, activities, thoughts, sleep, even foods. Everyone's pain recipe is different, but when combined, these ingredients combust to exacerbate pain.

Just as you have a high-pain recipe, you also have a low-pain recipe. A low-pain recipe is all the ingredients—situations, emotions, activities, thoughts, food, and sleep, for example—that go into creating a low-pain day. How can you exert some control over which kind of day you're going to have? One technique is to closely examine your low- and high-pain days, and notice the ingredients for each.

For example, let's look at Emma's recipes. Over a couple of weeks, Emma noticed that certain situations, thoughts, feelings, and events contributed to feeling awful, while others contributed to feeling pretty good. She listed the following pain ingredients:

Emma's High-Pain Recipe

- Skipping meals (poor nutrition)
- Being out of balance: hungry, tired (insufficient sleep), overworked (doing homework until 11:00 p.m.)
- Overcommitting (too many afterschool activities, clubs, and extra-credit work)
- High stress
- Anxiety and frustration about pain
- Not having time to relax, exercise, or have fun

Emma's Low-Pain Recipe

- Three meals a day plus snacks (well-fed, nutritious diet)
- Being balanced: eating regularly, sleeping well, balanced workload
- Saying no, limiting extra work and activities
- Low stress
- Using coping strategies to manage anxiety and frustration about pain
- Scheduling time to engage in self-care: exercising, relaxing, knitting, embroidery, creating art, journaling

Emma noticed that her overly busy life frequently resulted in a recipe for high pain. What changes could she make to replace some high-pain ingredients with low-pain ingredients? These were her ideas:

- Schedule protected "relaxation time" after school and on weekends to walk and draw.
- Set an alarm at mealtimes to prevent skipping meals.
- Go to bed earlier, sleep in on weekends.

Enter your high-pain and low-pain recipes (bonus brownie recipe!):

Brownie recipe	High-pain recipe	Low-pain recipe
1.5 cups flour		
2 cups sugar		
4 eggs		
¾ teaspoon baking soda		
½ teaspoon salt		
1 cup butter		
½ cup cocoa powder		

List some ideas for replacing high-pain ingredients with low-pain ingredients:

How Stress and Anxiety Affect Pain and Health

Emotions like stress and anxiety play a significant role in pain and health. *Stress* is a temporary response to an existing, external stressor; it typically abates once the threat is gone. *Anxiety* is a sustained stress response, typically disproportionate to the threat of the stressor, and often focused on future events that haven't even happened yet.

Sometimes teens with pain and illness say: "Oh, but I don't have any stress or anxiety." Newsflash: Having pain or illness is a *huge stressor* on your brain and body. In fact, pain is one of the biggest stressors there is!

Stress, anxiety, worry, and fear are all members of the same emotion family. These emotions are your body's adaptive response to danger. Remember, if something is *adaptive*, that means it functions to help you survive.

Back in the day, humans were hunters. While we hunted for our dinner, other animals hunted us! Your body therefore developed a system to manage emergencies: when a hungry lion approached, your body's stress-response system, including your *sympathetic nervous system* (SNS)—the system that readies your body for action—released stress hormones like adrenaline into your bloodstream.

Adrenaline sends your body into a state called *fight or flight*. This immediately readies your body to either (1) fight the lion, or (2) flee from the lion, and run away as fast as you can! Adrenaline affects your body in many ways: it accelerates heart and respiration, halts digestion, tenses muscles, makes you feel restless, triggers feelings of fear… In fact, many of the items on the anxiety and stress checklist in the "Emotions Live in Your Body" section can be attributed to adrenaline.

However, in today's modern world, we no longer need to hunt for our dinner with spears. Instead we buy food at the grocery store, and there aren't many lions there. But sometimes your body releases adrenaline anyway, and at inconvenient times—like when you're standing onstage trying to sing, taking a test in class, or thinking about an upcoming medical procedure.

Because there's not much difference in your stress response whether you're being hunted or taking a test, you experience similar symptoms: hammering heart,

churning stomach, rapid breathing, sweaty palms, pounding head. But you're just sitting in class, onstage, or on your couch, with the urge to flee and nowhere to go. (*Hmm. Thanks, body, but I don't need to fight-or-flight right now!*) This fight-or-flight response is what we call anxiety and stress. In these situations, whether you're at school or on your couch, it's no longer adaptive or useful. Instead, it's a false alarm that causes great distress.

If you've ever wondered why pain seems to be triggered or exacerbated by stress, one reason is that pain activates your SNS stress response. Stress, anxiety, and fear of pain sensitize your nervous system. Thinking there's an emergency—an activated stress response suggests danger!—your brain turns up your pain dial to make pain. The more pain volume increases, the more stressed you become—and so the stress-pain cycle persists.

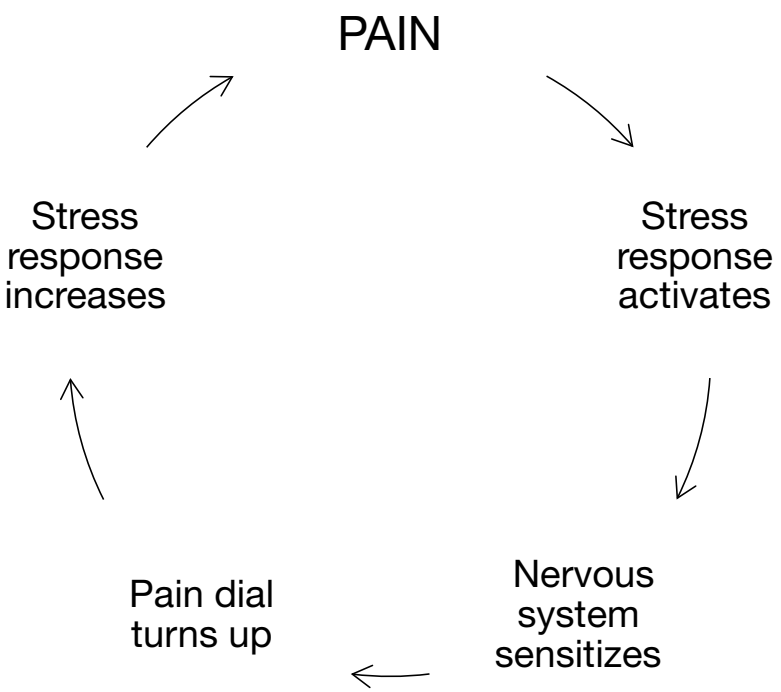

Figure 3. The Stress-Pain Cycle

Stress and Your Immune System

When you're stressed, like when you have pain or illness, your body releases an additional stress hormone called *cortisol*. If you've ever doubted whether emotions directly affect health, consider this: Cortisol suppresses your immune system. Your *immune system* is your body's defense against sickness and infection, fighting off harmful pathogens like viruses and bacteria. When stress and anxiety are high, you're less able to fight off infection and more likely to get sick. You're also more likely to get sicker if you're already sick.

High stress → High cortisol → Weakened immune system

Control Your Stress Response

When you're the boss of stress and anxiety, you're able to turn off your fight-or-flight response, break the stress-pain cycle, and turn down pain volume. Skills like relaxation and mindfulness, which you'll learn in chapter 4, can help you do this. These skills turn on your *parasympathetic nervous system* (PNS), your body's *relaxation system*. The PNS slows your heart rate, allows your body to rest, and promotes healing. Added bonus: when you decrease stress and increase relaxation, you turn off the false alarm system—and lower pain volume.

Stress → SNS on, PNS off → Pain volume high

Relaxation → SNS off, PNS on → Pain volume lower

Release Negative Emotions: How to Tea-Kettle

Regulating emotions and releasing stress can help you effectively regulate pain. One way to do this is to *tea-kettle*. What is tea-kettling, you ask? Well, first answer this:

Q: What would happen to a teakettle if it didn't have a whistle to release the steam?

A: The steam would have nowhere to go. The pressure inside the teakettle would rise…and rise…and rise…until…POP! It exploded.

Similarly, negative emotions need a place to go. If we don't find healthy outlets to release these feelings, they find ways to come out on their own. Negative emotions can come out in your body as muscle tension, stomachaches, vomiting, skin breakouts, or a headache that just won't quit. A great way to cope is to tea-kettle: let out, or express, your emotions in a healthy way (this is why it's called "venting"!). This way, pent-up emotions won't come out as pain. Better yet, they won't get stuck inside you to begin with!

Here are some great ways to tea-kettle:

- Write or journal—writing takes emotions out of your body, translates them into words, and releases them onto paper.
- Dance—dancing and moving help channel emotions into creative physical expression.
- Create art—drawing, painting, and other art transform emotions into colors, shapes, and images.
- Exercise—moving and sweating release emotional energy.
- Talk to someone—putting feelings into words releases them.

Additional tea-kettling ideas:

_____

_____

_____

Conclusion

Understanding the various parts of the CBT cycle—triggers, thoughts, emotions, body sensations, and coping behaviors—gives you the power to change the cycle, making *you* the boss of your pain. Now that you have insight into how negative emotions impact physical health, let's learn some behavioral strategies that can change pain.

Chapter 3

Strategies for Changing Pain

Coping with Pain and Illness

There are healthier and less healthy ways to cope with pain and illness. This is why the *B* in CBT stands for *behavior,* or how you act as a result of thoughts and feelings. The strategies in this chapter turn the volume down on pain by soothing stress, distracting you from pain, and helping you gradually resume activities and get back to life.

Act First, Feel Changes Later: How to Work Backward

It's understandable to think pain needs to resolve first, before you can resume activities. But to start feeling better, you actually need to work backward and resume activities first! Once you start getting sunlight, moving, exercising, seeing friends, catching up in school, and reengaging in hobbies and pleasurable activities, your mood is more likely to go up, stress and anxiety to go down, and pain volume to gradually decrease. Here's how it worked for Evan:

> *Evan struggled with rheumatoid arthritis that caused joint pain and required surgery. He'd stopped rock climbing and attending social events, and was getting tutored at home. He missed climbing and the friends he'd made at his climbing gym. He figured he'd have to wait for the pain to go away—presumably, after surgery—before he could go back. But once he learned the strategy of working backward, he decided he'd waited long enough. He missed enjoying his life.*
>
> *Evan decided to try physical therapy along with CBT to regain strength, muscle tone, confidence, and calm. After a few weeks, he texted his climbing partner to ask*

if he could join him at the gym, even if he had to go slowly. His friend, who'd been concerned about him, was glad to hear from him and said yes. Going back to the climbing gym felt like medicine. Evan enjoyed being around friends, and resuming activity actually made his pain feel less bad!

Engaging in activities by working backward helps you break the cycle of pain and illness. So how do you decide where to start? The first step is to *establish a goal*.

Goal Setting

No matter what your goals are—be they medical, physical, social, or academic—make them more achievable by following these steps. First, state your goals in terms of what you *do* want instead of what you *don't* want. For example, "I don't want to be trapped at home" keeps your brain stuck and lacks a plan for forward motion. Instead try: "Go outside more." Then, follow these goal-setting steps:

- Be realistic.

  Make your goals realistic and achievable. Setting unrealistic goals only results in frustration. For example, instead of "Feel completely better by Friday," try "Use three CBT strategies today."

- Be specific.

  State your goal using units of *measurement*—time of day, quantity, and duration. For example, instead of "Be more social," which is broad and vague, try "Text one friend on Friday at 4 pm." Instead of "Go back to school," try "Attend school for one hour three days this week."

- Break your big goal into smaller steps.

  Dream big! Just make sure to break your big goals down into smaller steps. This makes them less intimidating and more achievable. Small steps are also more trackable, so you can see where you've been and where you're going. For example: "Week 1—bike 10 mins daily at 1 pm. Week 2—bike 15 mins daily at 1 pm. Week 3—bike 20 mins daily at 1 pm."

- Pick a practical starting point.

  Identify an easy starting point that doesn't sound overwhelming. Starting small gives your brain and body a chance to gradually adjust to change. For example, if your goal is to resume cross-country running, don't start by running five miles after a month of not moving. Your body won't be used to it, and overexertion leads to pain. Instead, set a small, measurable starting goal, like "Walk 15 mins every day for one week."

- Measure progress.

  Keep a chart to track daily progress. It's rewarding and encouraging to watch your improvement. Feel proud of each small accomplishment!

- Anticipate obstacles.

  Anticipate obstacles before they happen, and troubleshoot solutions in advance. This way, you're ahead of the game. Ask yourself, *What might get in the way of achieving my goal?*

- Earn rewards!

  Rewards help motivate us and move us forward. For example, some teens work hard to earn money, while others work hard to get into a stellar college. Some teens will work for chocolate! Rewards are different for different people. Set up a system with your parents to earn rewards for accomplishing each small goal. Rewards can be screen time, going to a concert, money toward a guitar, shopping with your mom, or points toward a larger reward.

Add your goals in the space below. Use Lily's example to guide you.

Lily's big goal: Go back to Irish dance

Your big goal: _____

Lily's first small step (goal 1): Attend one dance rehearsal this week and just watch

Your first small step (goal 1): _____

When Lily will take that first step: After school today at 4 pm

When you'll take that first step: _____

Lily's next three realistic, specific steps (goals 2–4):

2. Email dance teacher today at noon

3. Attend weekly dance rehearsals Fridays at 4 pm

4. Practice dancing at home for 10 minutes 3 days this week

Your next three realistic, specific steps (for goals 2–4, include date, time, and units of measurement):

2. _____

3. _____

4. _____

Lily's Progress Chart (X = complete)

	Mon	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
Goal 1: Attend rehearsal, just watch	X						
Goal 2: Email teacher	X						
Goal 3: Weekly rehearsal					X		
Goal 4: Dance 3 days for 10 mins		X	X			X	

You can download a copy of this chart at http://www.newharbinger.com/33522.

Your Progress Chart

	Mon	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
Goal 1:							
Goal 2:							
Goal 3:							
Goal 4:							

Lily's potential obstacles and solutions: The teacher might not email back; if she doesn't, I'll go to her office. I may get tired and have pain; I'll take frequent breaks and bring an ice pack.

Your potential obstacles and solutions:

Lily's reward ideas: New recipe book and mixing bowl

Your reward ideas:

Pacing: How to Resume School and Activities

One of the most important, effective strategies for desensitizing your sensitive nervous system and managing pain and illness is called *pacing*. You can use this skill to resume a physical activity or hobby (*activity pacing*) or an academic activity (*academic pacing*), or even to return to school.

Some teens protect themselves from pain by resting, reducing activity, and staying home. This can last for an afternoon, a month, or more than a year. While this seems reasonable and understandable, resting for too long actually makes it harder to return to the activities you love. Motivation decreases, your body gets stiffer and less fit, your nervous system stays sensitive, and movement and activity become even more painful. The cycle of inactivity as a result of pain looks like this:

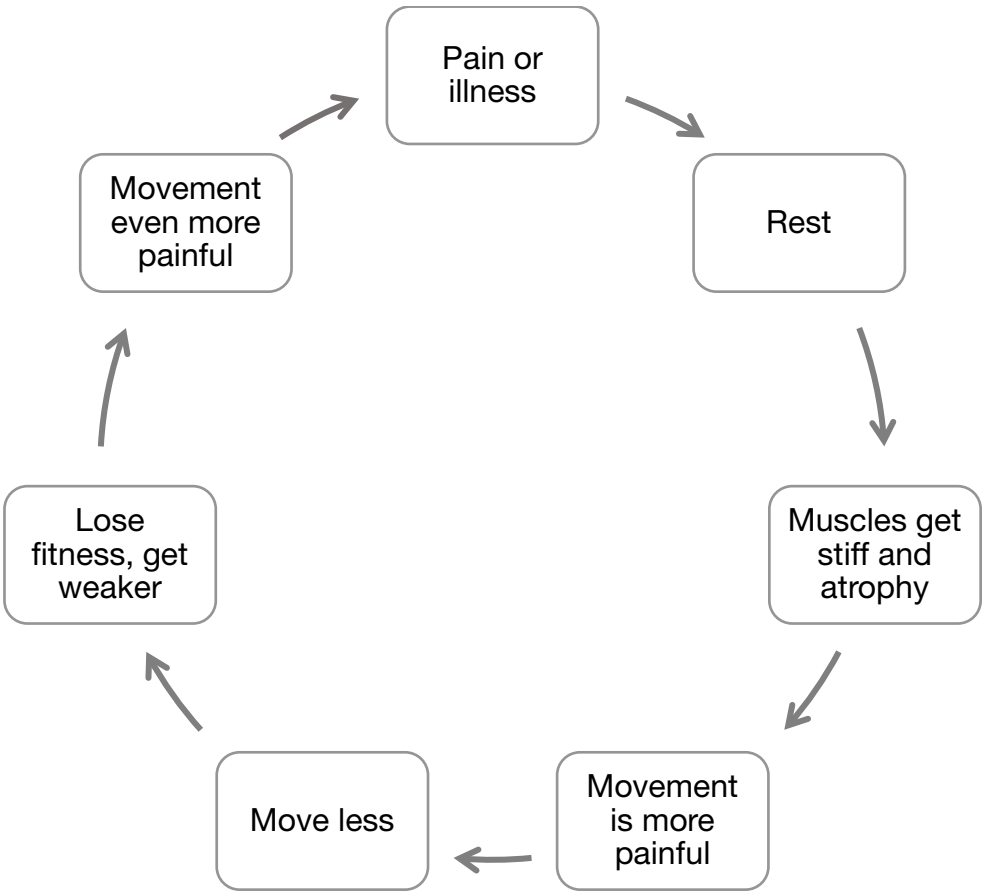

Figure 4. Pacing: inactivity and pain

On a low-pain day, some teens do the opposite. They're so excited to have less pain that they try to do as much as possible. They go for a run, play basketball, do as much homework as they can, then spend the rest of the day with friends. But what happens when you push yourself too hard?

Ugh. Pain. You may crash and not be able to get out of bed for hours or days. This cycle of intense overactivity and underactivity *decreases* your overall functionality. This is the dotted line you see in the diagram below. This boom-and-bust, up-and-down cycle actually results in less activity over time rather than more, because it wears out both your body and your resolve.

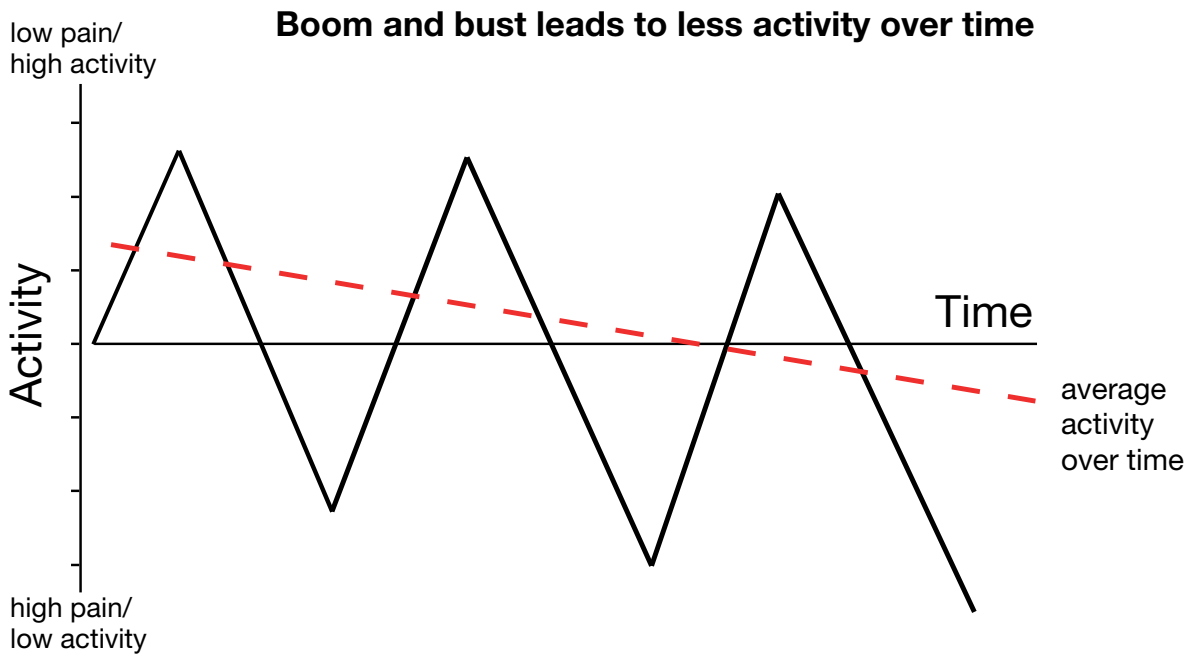

Figure 5. Pacing: boom and bust

One way to find a balance between doing too little and too much is to try *pacing*. When you pace yourself, you engage in a regular, daily level of activity somewhere between doing nothing (too little) and doing everything (waaay too much). This results in a gradual increase in activity and functioning over time.

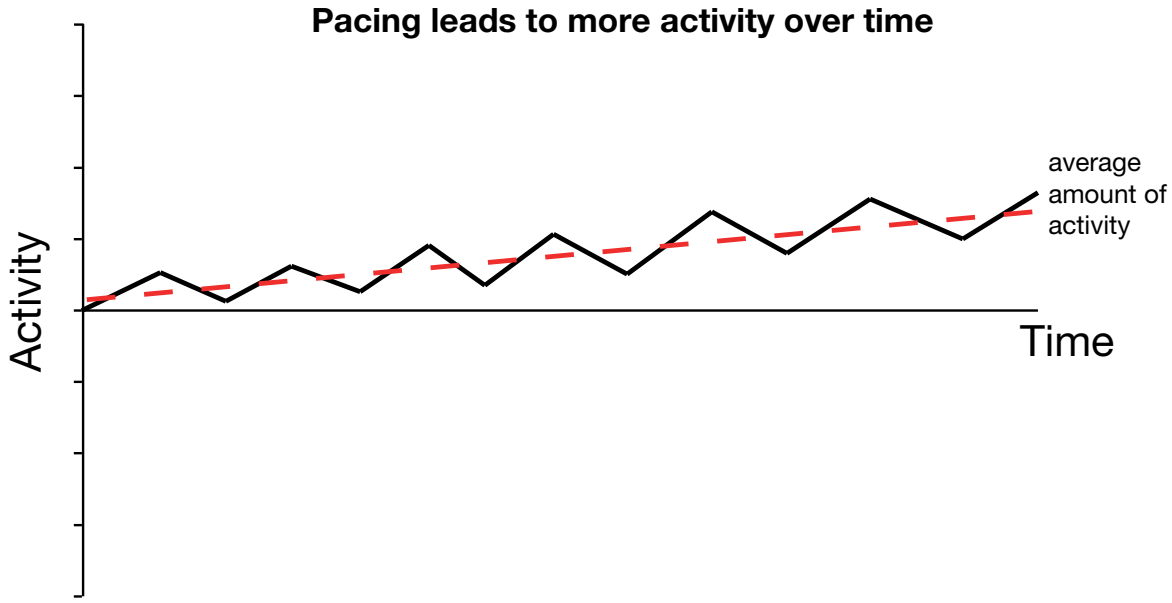

Figure 6. Pacing improvement

Pacing is like warming up an old car after it's been sitting outside in the winter snow for too long. The engine has become cold and clunky from disuse and needs to warm up before it can perform well. Your sluggish car can't drive cross-country the instant you turn it on! First it needs to warm up in the driveway, then do some practice laps around the block. Once the engine is warm and used to moving, it can go longer distances. This is true for you, too. Think of pacing as a way to warm up your brain and body.

Pacing = Brain- and body-warming

Even if you've been inactive for weeks or months, you can warm your brain and body starting today. *Now.* Pick any activity! You can pace to train for a sport or to restart your favorite hobby. You can pace to get back to Irish dance (hi, Lily!), soccer (hi, Jack!), even sewing (hi, Zoe!). Lily, Jack, and Zoe all used the pacing plan to return to activities they used to love before they got sick. It's real and it works!

Pacing Brainstorm

What activities are you willing to try this week? Circle some ideas:

audiobook	walk in a park	yoga
hike	math	trampoline
lift light weights	soccer	walk to the mailbox
basketball	dance	school
walk the dog	write	swim
ride a bike	run	build robots
read	jumping jacks	drive
trapeze	see friends	go grocery shopping
ballet	spelling	do homework

Add your own ideas for pacing:

_____

_____

_____

_____

Activity Pacing

The trick to pacing is to set realistic, measurable goals, and slowly work your way up to them—bit by bit. For this exercise, first check with your doctor to make sure

pacing is right for you. Next, pick an activity you'd like to try but have been unable to do because of pain or illness. Then create a *pacing plan*.

Here's Dr. Z's example:

Step 1. Set a goal. Pick a physical activity you'd like to resume or try.

Hula-hooping!

Step 2. State your ultimate goal for this activity using specific measurements like time, duration, and frequency.

Hula-hoop for one hour daily, 7 days a week.

Step 3. Measure the length of time you can do this activity comfortably on a low-pain day, and then on a high-pain day.

On a low-pain day, I can hula-hoop for 20 minutes. On a high-pain day, I can hula-hoop for only 4 minutes.

Step 4. Calculate the average by adding these together, then dividing the total by two.

20 (low) + 4 (high) = 24 minutes (total)

24 (total) ÷ 2 = 12 minutes (average)

Step 5. Once you have an average amount of time you can do this activity, subtract a few minutes to give yourself a cushion. This will be your *daily baseline*, or the amount of time you do this activity every day—whether it's a high-pain day or a low-pain day.

12 minutes (average) – 2 minutes (cushion) = 10 minutes (daily baseline)

Step 6. Each week, add five or more minutes to your activity until you reach your ultimate goal. This is your weekly *activity increase*.

I will increase hooping by 5 minutes weekly until I reach my goal (one hour of hula-hooping, woo-hoo!). Next week, I'll hoop for 15 minutes, and the following week, I'll hoop for 20 minutes.

Daily baseline = Daily activity goal

Your *daily baseline* is the amount of time you should try this activity every day—on low-pain *and* high-pain days. Don't do more, and don't do less. This will prevent you from becoming inactive and also from overexerting yourself. Most importantly, it will help your brain desensitize. Over time, your brain will respond a little less to those loud, false-alarm warning messages you've been getting all the time, because you're slowly warming it up like an engine. It will unlearn the emergency response to harmless stimuli, like walking or hula-hooping, that make you *hurt* but don't cause *harm*. Your body will get used to moving; your muscles will get stronger and fitness will increase. You'll get better at tolerating whatever activities you choose, even on days when you feel sick or have some pain. That's the magic of pacing!

For example, I'll hula-hoop for ten minutes every day during week one, regardless of my pain level. There will be times I want to hoop more (on days I feel awesome), and times I want to stay in bed and not hoop at all (on days I feel terrible). But I'll use my pacing plan to accomplish ten minutes of activity every day, which will help my brain rewire and enable my body to get healthy and strong again.

Taking breaks is also an important part of pacing. If your pain starts increasing, rest for a few minutes. Drink water, take deep breaths, listen to music, stretch. It's also helpful to get support by asking someone to do this pacing activity with you! For example, if I'm having a tough high-pain day, I'll ask friends to hoop with me for company and cheer me on.

Now create your own activity pacing plan.

Step 1. Set a goal. Pick a physical activity you'd like to resume or try.

Step 2. State your ultimate goal for this activity using specific measurements like time, duration, and frequency.

Step 3. Measure the length of time (in minutes) you can do this activity comfortably on a low-pain day, then on a high-pain day.

Low-pain day: _____

High-pain day: _____

Step 4. Calculate the average by adding these times together, then dividing the total by two.

Low pain _____ + high pain _____ = _____ (total)

Total _____ ÷ 2 = _____ (average)

Step 5. Once you have an average amount of time you can do that activity, subtract a few minutes to give yourself a cushion. This will be your daily baseline.

Average _____ – 2 minutes = _____ (daily baseline)

Step 6. Determine your weekly activity increase. Add five or more minutes to your activity each week until you reach your ultimate goal.

Your weekly activity increase: _____ minutes

Academic Pacing

Just as activity pacing can help you get moving again, *academic pacing* is a great strategy for increasing your ability to focus, think, and concentrate. If you haven't been able to do much academic work, use this pacing plan to warm up your great brain! As with activity pacing, start by setting a specific, measurable goal. Then track the length of time you can comfortably read, write, or go to class on easy and tough days. Establish your daily baseline, and start pacing. Here's how Dena paced:

> *Dena had chronic daily migraines that made her feel dizzy and foggy, making it hard to concentrate. She stopped going to school and couldn't do academic activities at home. She had piles of makeup work, and just thinking about it made her head feel worse. She decided to try academic pacing with the support*

of her parents, who agreed to reward her for each step she took toward resuming schoolwork.

Dena's ultimate goal was to complete all daily assigned reading. The amount of time she could read on a high-pain day was ten minutes. On a low-pain day, she could comfortably read for forty minutes. She completed her pacing worksheet and calculated a baseline reading time of twenty-three minutes.

Because difficult academic work triggered stress and made pain worse, Dena decided to start pacing using the Harry Potter series—pleasurable books she enjoyed. Each day, Dena set aside twenty-three minutes to read her fun, relaxing book. Every day she read, her parents rewarded her with points. They agreed that if she had ten or more points by the end of the week, she'd earn a gift card.

The first week, it was hard for Dena to get herself to read when she was in pain. But she was motivated by the gift card because she really wanted new audio speakers! Dena added ten minutes of reading each week, even though some days were really hard. By the month's end, she was reading two hours a day, taking hot-chocolate breaks as needed, and felt really proud. She slowly transitioned from pleasure reading to academic work, and within a month she was catching up in school.

Use this space to create your own academic pacing plan:

Step 1. Pick an academic activity you'd like to resume.

Step 2. State your ultimate goal for this activity using specific measurements like time, duration, and frequency.

Step 3. Measure the length of time (in minutes) you can do this activity comfortably on a low-pain day, then on a high-pain day.

Low-pain day: _____

High-pain day: _____

Step 4. Calculate the average by adding these times together, then dividing the total by two.

Low pain _____ + high pain _____ = _____ (total)

Total _____ ÷ 2 = _____ (average)

Step 5. Once you have an average amount of time you can do this activity, subtract a few minutes to give yourself a cushion. This will be your daily baseline.

Average _____ – 2 minutes = _____ (daily baseline)

Reminder to do this academic activity every day—whether it's a high- or low-pain day. Make sure to take breaks: drink tea, go for a walk, pet your parrot!

Step 6. Each week, add five or more minutes to your activity until you reach your goal.

Your weekly activity increase: _____ minutes

Pacing to Resume School

If you've stopped attending school, you can pace to return. Find a point person at school, like a counselor or teacher, willing to help you coordinate a *school reentry plan*. To adjust to academic and social stimulation—and give yourself time to get used to people, activity, and mental exercise—pick one class that's a good starting point; for example, science, which starts at 12:00 p.m. and lasts for one hour. Make sure to identify a place where you can take short breaks and use coping skills, like the library or nurse's office. Your brain will start to adjust, because your brain is awesome. In a week or two, add in another class. Keep adding in classes until you're back full time! Here's how Charlie did it:

> *Charlie was in eighth grade when he was diagnosed with pancreatitis. It caused abdominal pain, vomiting, and nausea that prevented him from attending school. Even though medical treatment and dietary changes helped, he still experienced nausea and pain. After missing most of the year, he decided to try a school pacing*

plan. He felt nervous about going back—What if he was behind? What if his friends no longer wanted to hang out with him? What if his symptoms flared up in class?—but decided to try anyway.

His CBT therapist coordinated with his guidance counselor, and together they established a plan for Charlie's gradual return. To start, Charlie attended one class a day. It was English, his favorite, and he really liked the teacher. His CBT therapist taught him relaxation and imagery exercises to use in the mornings, which helped him feel calmer, eased his stomachaches, and turned down his pain dial. His grandpa gave him a stopwatch to hold in his pocket at all times to remind him that his family was always with him.

When Charlie returned to school, his friends immediately welcomed him back. No one teased him, and his teachers greeted him warmly. His stomach hurt, but he'd made a plan with the school nurse so he was able to rest in her office during flare-ups. By the second week, his body started adjusting and his abdominal pain was more manageable. He still hurt, but the breathing exercises and stopwatch helped. After a few weeks, Charlie felt confident enough to add in another class. School was stressful, but much less stressful than missing all of eighth grade!

YOU CAN DO IT!

Use Distractions to Lower Pain Volume

When you're absorbed in something fun, interesting, or distracting, you can sometimes "forget" about your pain. Describe a time this happened to you:

Developing Distraction Strategies

Distraction strategies manage pain by shifting attention away from it and onto something else. When you're distracted, your prefrontal cortex (the foremost part of your brain) sends a message to your pain dial, lowering pain volume. Distractions can be *cognitive* (for the mind, like brain teasers), *physical* (activities, tasks, sensations, movement), or *emotional*. Like Jax, you can combine various types of distraction strategies to manage your pain.

Jax struggled with Lyme disease. One Saturday, her friends got together to watch movies—but Jax was stuck in bed with a flare-up. Her friends texted her repeatedly to invite her over. She finally agreed, but became nervous in the car: What if her symptoms got worse after she left home? What if she was miserable and had to leave?

Once Jax arrived and saw her friends' smiling faces, she felt more at ease. They lay on the floor together watching funny movies, laughing, and eating popcorn and M&Ms. When the movie ended, Jax realized she'd been so distracted by fun activities (movie watching, being with friends), enjoyable sensations (lying on the fuzzy carpet, crunching popcorn, melting chocolate on her tongue), and pleasant emotions (happiness, pleasure) that she hadn't thought about her symptoms for hours!

DISTRACT USING ACTIVITIES

Make a list of favorite activities and pick one: go for a walk, create art, bounce a ball, cook a meal, play a game, go shopping, do something nice for someone (make a card for your mom or dad, call a grandparent!). What activities distract you?

_____

_____

_____

DISTRACT USING EMOTIONS

Read, watch, and listen to anything that generates pleasant emotions. If you're upset, watch a funny movie, listen to a comedian, or read a comic book. If you're

bored, read an interesting magazine. If you're stressed, listen to calming music. Notice how your mood changes when you change the situation! How can you distract using emotions?

DISTRACT USING BRAIN TEASERS

Engage your brain with tasks that take your mind off pain. Try Sudoku or a crossword puzzle. Solve a book of riddles. Count backward from two hundred by sevens, list the presidents, name the constellations in the starry sky. Work on a complicated math problem or jigsaw puzzle. What mental exercises distract you?

DISTRACT USING YOUR FIVE SENSES

Use your five senses (sight, sound, taste, touch, and smell) to generate distracting sensations. Try cold or hot: apply ice to the back of your neck or give your feet a cold soak. Take a hot bath, light scented candles, listen to music, drink something cool and soothing. Go for a walk outside at dusk. Get a massage. Which senses can you use to distract?

Distraction Brainstorm

Here's a list of distraction strategies assembled by teens coping with pain and illness, just like you. Think of activities like the ones below that don't center on screens (See: A Note About Screens). Check them off, cross them out, add your own! In chapter 4, you'll find descriptions for some you may not be familiar with—for example, diaphragmatic breathing, guided meditation, and body scans.

Take photos using a film camera.

Get fuzz therapy: scratch your cat or dog.

Do a crossword puzzle.

Cook or bake.

Read.

Draw.

Write a story and act it out.

Practice diaphragmatic breathing.

Walk or bike around the block.

Go to the library and borrow books.

Hike in nature.

Head to a destination: the pharmacy, library, or corner mailbox to mail a letter.

Get a donut from the corner café.

See how many push-ups and sit-ups you can do.

Listen to a guided meditation.

Try Sudoku.

Play a board game.

Build something: a house made of Legos, a pillow fort, a model airplane.

Write a letter to a grandparent, friend, or famous person.

Draw your family tree.

Make a list of the best Halloween costumes you've ever seen, and plan yours.

Video-chat with faraway family members.

Go to a dog park and befriend someone else's dog.

List goals you want to achieve someday.

Listen to an audiobook.

Organize one corner of your room.

Run an errand.

Do laundry to enjoy the feeling of warm clothes fresh out of the dryer.

Try a biofeedback app.

Taste a fruit or vegetable you've never heard of before. (What's a kumquat?)

Take a warm bath or cold shower.

Practice the body scan.

Try five-senses mindfulness.

Identify species of flowers, birds, and butterflies outside using nature guides.

Make leaf rubbings.

Learn all about primates like the slow loris.

Bounce a tennis ball against a wall.

Soak your feet in a bucket of ice water.

Try self-soothing.

Ask your parents how they met.

Look up after-school activities that sound interesting.

Color in a coloring book.

Research five places you'd like to visit.

Polish your nails (fingers and toes) or someone else's.

List animals that start with every letter of the alphabet (aardvark, bobcat, crocodile …).

Think of all the types of (1) dogs, (2) cars, (3) TV shows, (4) sports, or (5) movies you can come up with.

Make a list of favorites: color, animal, season, food, time of day, TV show, movie, author, athlete, book, actor, ice cream.…

Look up your favorite recipe, write out the ingredients, then make it.

Try guided imagery.

Stretch your muscles, one at a time.

Copy the words to a song, quote, or poem that make you feel good and tape it to your wall.

Make up a dance.

Learn to sew.

List things you're looking forward to this week.

Offer to do the dishes in exchange for chocolate.

Invite friends over for karaoke.

Make enough Rice Krispie treats to share with your neighbors.

Add your own ideas here:

_____

_____

_____

_____

A Note About Screens

Screens can be useful tools for pain management. However, too much screen time can be harmful. Screens keep you sedentary and still, which prevents you from effectively desensitizing your pain system. Brains needs exposure to real-life stimuli like people, activity, and sunlight to heal!

Screens are also bad for sleep: Their blue light reduces the amount of *melatonin* (a sleep hormone) your brain produces. This delays feelings of sleepiness, makes it hard to fall asleep, and disrupts your natural sleep cycle. Screens also stimulate your brain, providing sensory overload during a time when you should be helping your brain slow down. Lastly, screens activate—rather than quiet—your nervous system, causing excitation rather than calm. (See the section titled "Sleep Better to Feel Better.")

This doesn't mean you should avoid screens altogether; movies, TV, and video games can occasionally be great distractions. Limit screen time to two to three hours a day, and brainstorm other, nonscreen activities that also reduce pain volume, like those on your distraction list!

Soothe Your Senses

Another great pain coping strategy is *self-soothing*. When you self-soothe, you comfort, take care of, and are kind to yourself, and teach your brain that your body is safe. This turns down the volume on pain. A great way to do this is to consider how to soothe each of your five senses: sight, sound, taste, touch, smell. Combine these to make a self-soothing plan for tough days.

Sight: Walk in nature—the woods, the beach, a nearby park. Notice everything around you. Paint. Draw. Print pictures of the ocean and hang them on your wall. Pick flowers for your room. Sit in a garden and watch butterflies. Watch your favorite movie. Drive to a lookout and admire the view. What are your favorite things to look at?

Sound: Listen to calm, soothing music. Listen to nature sounds, like rain, a waterfall, or your cat purring. Download a white-noise app. Listen to an orchestra and pick out the instruments. What are your favorite sounds?

Smell: Notice different smells around you. Light a scented candle or incense. Take showers with fragrant soap. Take walks in the woods, breathing the smells of nature. Smell dinner cooking and identify each scent. Visit a cosmetics store and sample perfumes. Bake cookies! What are the most soothing smells?

Taste: Make "comfort food" or a favorite meal, and notice how it soothes you. Eat slowly, savoring each bite. Notice temperature and textures. Drink a mug of hot tea. Crunch on ice, drink a cold glass of lemonade. What are the most soothing things to taste?

Touch: Notice textures and temperatures on your skin. Take warm bubble baths. Pet your dog or cat for fuzz therapy. Hold someone's hand. Pop bubble wrap. Put on your favorite pajamas or your dad's sweatshirt. Wrap yourself in fuzzy blankets. What are the most comforting things to touch?

Put all these together to make a self-soothing plan for tough pain days. A good self-soothing plan, like Juliana's, incorporates all five of your senses to maximally soothe your brain and body.

Juliana was having a tough pain day, and her whole body hurt. To soothe, she made a plan using each of her five senses. She ran hot water for a bath (touch). She used a "bath bomb," which releases a scent, bubbles, fizzes, and turns the water pink (smell, sight). She gathered colorful magazines with pictures and distracting stories (sight). She poured a tall glass of iced tea because she liked contrasting hot water on her skin with a cold drink (taste, touch). She played her favorite playlist (sound). As Juliana sank into the bath, she focused on her soothed senses. For the entire hour she was in the bath, she felt relaxed and peaceful. When she got out, Juliana said to her mom, "I feel like a new person!"

Write your own five-senses self-soothing plan here:

Improve Your Mood with Pleasurable Activities

Living with pain or illness can mean giving up things you love, like fun hobbies and activities. But this only makes you feel worse, because you experience less pleasure. When you have pain, it's even *more* important to schedule activities that give you joy! Every minute you're engaged in a pleasurable activity is a minute you're less stressed, sad, and focused on pain. Pleasurable activities raise your mood to turn the volume down on pain.

What are some activities that give you pleasure? (Circle any that apply and add your own.)

cooking	drawing	playing drums
karate	going out with friends	camping
kite flying	designing clothes	going to concerts
singing	acting in plays	hoverboarding
shoe shopping	ballroom dance	horseback riding
going to the zoo	tennis	_____
fishing	swimming	_____
bubble baths	making pottery	_____
volleyball	baking bread	_____

Integrate pleasurable activities into daily life so that you make sure to do something enjoyable every single day! This is *especially* important on days you have pain.

Schedule one pleasurable activity every day this week:

Monday: _____

Tuesday: _____

Wednesday: _____

Thursday: _____

Friday: _____

Saturday: _____

Sunday: _____

Conclusion

Pain and illness can keep you sedentary and miserable. One way to fight back is to set goals, work backward, and pace to resume doing things you love. Coping strategies help turn down pain volume by distracting and soothing your (always connected!) brain and body. In this next chapter, you'll learn mind-body skills like mindfulness, biofeedback, and relaxation strategies to help manage your symptoms.

Chapter 4

Mind-Body Skills

Your Head Is Connected to Your Body!

There's no getting around it: your brain and body are connected 100 percent of the time. Pain and illness trigger stress. Stress activates your sympathetic nervous system (SNS), sensitizes your nervous system, turns up the pain dial, and causes more pain. *Mind-body techniques* teach you to use the power of your mind to turn off your SNS and take charge of pain. Research shows that these strategies, which include biofeedback, mindfulness, relaxation, and imagery, can decrease pain frequency and intensity, increase control over physical symptoms, reduce negative emotions like sadness and anxiety, and increase quality of life. Mind-body techniques help you alter major bodily functions, like heart rate, muscle tension, respiration, skin temperature, immune functioning, and pain. Imagine the power you'd possess if you could control your body with your mind!

Biofeedback: Hand Warming

As evidence that your mind affects body processes, biofeedback can teach you to make fireballs with your hands! *Biofeedback* is a scientifically supported pain-management technique in which we use feedback from our biological systems to modify formerly unconscious processes like heart rate, muscle tension, skin temperature, and pain.

We don't normally think of body temperature as something we control: if we're cold, we raise the thermostat or put on a sweater. But not after today! *Hand warming* is a

biofeedback technique in which you use your mind to control your temperature. The science is this: Pain triggers stress, which triggers the fight-or-flight response. This response pulls blood away from extremities (hands, feet) and into your body's core. Typically, the more stressed you are, the cooler your extremities. The more relaxed you are, the warmer your extremities. Relaxation turns off fight-or-flight, increasing blood flow to your hands. And guess what blood carries? Blood carries heat. Congratulations, you're about to make fireballs with your hands!

How to do it:

Set aside ten to fifteen minutes for this activity. You can download a recording of this exercise at http://www.newharbinger.com/33522 or have someone read this to you.

For this activity, you'll need a "stress thermometer" to hold between your thumb and pointer finger to provide feedback about skin temperature. This is different from a fever thermometer. You can get one on Amazon, bio-medical.com, or stress-stop.com.

Before starting, hold the thermometer between your thumb and pointer finger to measure baseline (starting) finger temperature.

Record that here: _____

Now check in with your body and emotions:

Stress or anxiety rating (0 = none, 5 = moderate, 10 = extreme): _____

Pain rating (0 = none, 5 = moderate, 10 = severe): _____

Find a quiet place where you won't be disturbed. Turn off your screens or put them away. Lie or sit somewhere comfortable and quiet, like a couch or floor. Uncross your arms and legs, and close your eyes. Let your hands hang down by your sides. Hold the thermometer between your thumb and index finger throughout this exercise.

Take several deep breaths into your belly: inhale and feel your belly rise as it fills with air. Exhale and feel your body relax.

Clench your fists and pull them toward your shoulders, squeezing your biceps. Squeeze tightly for a slow count of ten. Let your arms hang loose, and let your body relax. Next squeeze your legs, thighs, calves, and ankles together for a count of ten…squeeze harder… then let your body relax.

Bring your attention to the top of your head. Sense into your face and let your facial muscles relax. Release your jaw and let it hang open.

Sense into your chest, heart, and lungs. Let your breath be slooow. Notice your pulse; feel your heart pumping blood around your body. Slow your heart rate by repeating to yourself, My heart is slow and regular. Sense into your neck and shoulders. Let your shoulders drop as if gravity is pulling them down. Let your arms be limp, loose, warm, and relaxed.

Imagine hollow tubes inside your arms, connecting the tops of your shoulders to the tips of your fingers. Imagine hot air flowing inside these tubes from the tops of your shoulders, past your elbows, into your forearms, your wrists, into the palms of your hands. Feel the hot air pooling in the tips of your fingers. Feel your fingers getting warmer and warmer. Imagine they're getting red and hot. Each time you exhale, imagine hot air flowing down into your hands.

Now imagine hot soup flowing inside your arms. Imagine this steaming hot soup flowing down from your shoulders, past your elbows, into your forearms, the palms of your hands, into the tips of your fingers. Feel your fingertips getting hotter and hotter as they fill with hot soup. Imagine the capillaries and blood vessels in your fingers expanding as your hands get hotter and hotter. Repeat to yourself, My arms are heavy and warm…my hands are heavy and warm. Let the blood flow into your hands. Feel the heat in your fingertips. Feel your hands throbbing and tingling as they get warmer and warmer.

Now imagine holding your hands over a campfire. Picture the fire's orange flames, the smell of burning wood. Hold your hands over the fire and feel the heat. As your hands and fingertips get hotter and hotter, feel them tingle and throb. Notice your palms sweating. Feel the flame on your hands until they seem to be red, glowing with heat.

When you're ready, slowly bring your attention back to the room around you, open your eyes, and look at the thermometer. Look at the insides of your hands and press them to your face. Notice if they're warmer, redder, and sweatier than usual.

Your check-in:

Record your new finger temperature here: _____

Check in with your body and emotions:

New stress or anxiety rating (0 = none, 5 = moderate, 10 = extreme): _____

New pain rating (0 = none, 5 = moderate, 10 = severe): _____

What did you notice and how did you feel? Include any temperature changes.

_____

_____

_____

Behold the power of your mind! If your mind can heat your hands, what could it do to your pain?

_____

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If you don't notice a significant change the first few times, fear not; like any skill, hand warming takes time and persistence. Try it every day and see how hot you can make your hands!

Mindfulness

Mindfulness is the quality or state of being present, attuned, and self-aware. Mindfulness techniques have become an integral part of many pain treatments. For example, mindfulness-based stress reduction (MBSR) is a scientifically supported treatment for chronic pain that uses mindfulness and relaxation strategies to calm

the mind, relax the body, and lower pain volume. Research shows that regular mindfulness practice also improves concentration and sleep, decreases distress and disability, increases ability to manage and cope with pain, and can improve quality of life.

When we are mindful, we use our "attention muscle" to focus on what's happening inside us and around us in the present moment without judging anything as "good" or "bad." Mindfulness emphasizes noticing things exactly as they are, without trying to push them away or change them. Consider this: Our minds tend to drift backward into the past: *I shouldn't have done that!* Or, *Why'd I say that? That was so stupid!* Thinking about the past is stressful, because these things have already happened and we can't do much about them. Our minds also tend to shoot forward into the future: *What's going to happen to me? What if I never get better? Will I get into college?* Thinking about the future is anxiety provoking because we can't predict or control it, no matter how hard we try. This stress only makes us feel worse.

Mindfulness is the muscle we use to pull our attention from the past (what's behind us) and from the future (what's in front of us) back into the present moment. *Just right here.* Because chances are, you can handle Just Right Here. Here you are, sitting in a chair, reading this book. And you are okay!

In this chapter, you'll learn a variety of mindfulness and relaxation strategies, including watching the breath, belly breathing, body scan, and five-senses mindfulness to help rewire your pain system and lower pain volume. You'll check on stress and pain levels before and after each exercise. If the levels don't change right away, don't worry—change comes with time, repetition, and practice!

Watching the Breath

One effective way to pull your mind from the past and future into the present moment is to focus on your breath. Your breath is always with you. It is constant and calming, like waves in the sea. Focusing on your breath pulls your attention into your body, so that you can focus on the here and now.

How to do it:

Set aside five minutes for this activity. You can download a recording of this mindfulness exercise at http://www.newharbinger.com/33522 or have someone read it to you.

Before you start, check in with your body and emotions:

Stress or anxiety rating (0 = none, 5 = moderate, 10 = extreme): _____

Pain rating (0 = none, 5 = moderate, 10 = severe): _____

Find a quiet place where you won't be disturbed. Turn off your screens or put them away. Lie or sit somewhere comfortable and quiet, like a couch or floor. Uncross your arms and legs, close your eyes, and listen.

Imagine that your attention is a spotlight and you can control where it shines.

Shine that spotlight on your breath as it comes in through your nose.

Examine this in-breath with curiosity, as if you've never noticed how air feels before.

Without any judgment, feel the air tickle the inside of your nose.

Notice whether the air is warm or cool.

On your next in-breath, notice how the air feels traveling down into your lungs.

Feel your lungs expand and stretch as air comes into your body. Notice how your chest rises.

Hold your breath for a moment, noticing how it feels.

Notice the urge to release your breath.

Now slooowly exhale, feeling your lungs relax and your chest fall gently as the air leaves your body.

Notice the sound of your out-breath.

Notice the muscles in your body relax as you exhale.

Feel the air exit your nose; notice how it tickles the inside of your nose.

Notice whether the air is warm or cool.

No need to do or change anything: just notice how your body feels when you breathe.

Now bring that spotlight of attention to your ears.

Notice, in this quiet moment, what sounds you can hear. Try not to judge sounds as good or bad—just observe and report, like a forecaster reporting the weather.

If your mind starts to wander, that's okay. Simply bring that spotlight of attention back to your breath.

That's it! You did it! By paying attention to your breath and body in this moment, you practiced mindfulness.

Check in with your body and emotions:

New stress or anxiety rating (0 = none, 5 = moderate, 10 = extreme): _____

New pain rating (0 = none, 5 = moderate, 10 = severe): _____

What did you notice and how did you feel (emotionally and physically)?

_____

_____

_____

_____

_____

When and where can you practice mindfulness at school? At home?

(Example: *At school I can practice in the nurse's office at lunch; at home I can practice in my living room after dinner.)*

_____

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While mindfulness is something we *do*, it also affects how we *feel* and *think*, which can break the pain cycle. The mindfulness muscle gets bigger and stronger the more you use it. Try exercising it once a day and see how skilled you get!

Five-Senses Mindfulness

Another way to practice mindfulness is to use your five senses to tune in to the present moment. This exercise increases joy and pleasure, alters attention, decreases stress and frustration, and promotes relaxation.

How to do it:

Set aside ten minutes for this activity.

Check in with your body and emotions:

Stress or anxiety level (0 = none, 5 = moderate, 10 = extreme): _____

Pain rating (0 = none, 5 = moderate, 10 = severe): _____

Select a piece of fruit from your kitchen (you'll need it for "taste") and go outside. Find a spot in your yard or a park where you won't be disturbed. Leave your screens inside or turn them off.

Focus on the nature around you. Let your breathing be slow and calm.

See: *Use your eyes to scan your surroundings. Notice shapes, shadows, and textures. Notice colors: green, white, yellow. How many different flowers and trees do you see? Look up at the sky and describe its color; notice the clouds. Where is the sun? Without any judgment, describe everything you see.*

_____

_____

Listen: *Close your eyes, tune in to your ears, and notice everything you hear. Tune in to the sound of the wind in the trees, the birds singing. Notice cars in the distance, dogs barking, and children playing. What can you hear?*

Touch: *Rub your fingers along different surfaces and textures. Touch a leaf, flower petal, tree trunk, park bench. Try to find different textures—smooth, rough, bumpy, cold, warm—and describe them. Feel the sun on your skin and breeze in your hair. Take a step and notice your feet in your shoes. What do you feel?*

Smell: *Breathe deeply. Notice everything you smell. Find a fragrant plant or tree, smell a flower. Rub a blade of grass between your fingers. Tune in to a scent you didn't notice before. What can you smell?*

Taste: *Examine the fruit you took outside. Imagine you're a space alien eating fruit for the first time. Before chewing, notice what it looks like, smells like, and feels like on your tongue. Is it cool, smooth, bumpy? Feel your mouth start to salivate. Slowly bite down, noticing the pressure of your teeth on the fruit. Taste it on your tongue, feel the texture in your mouth. Focus all your attention just on your senses. What can you taste?*

Check in with your body and emotions:

New stress or anxiety level (0 = none, 5 = moderate, 10 = extreme): _____

New pain rating (0 = none, 5 = moderate, 10 = severe): _____

What did you notice and how did you feel (emotionally and physically)?

_____

_____

_____

Anytime you are feeling stressed or having a flare-up, tune into your five senses to distract, calm, be mindful, and turn down pain volume!

Relaxation Strategies

Even if you don't feel stressed right now, pain and illness place tremendous stress on your body. *Relaxation strategies*, central to CBT and MBSR, teach you to slow your heart; decrease muscle tension; increase blood flow for faster healing; help you feel more in control of your body; and lower the pain dial to quiet pain signals. They also give you greater capacity to cope with pain.

Belly Breathing

Relaxation strategies often start with *diaphragmatic*, or *belly*, *breathing*. Your *diaphragm* is a muscle just below your ribs that contracts and expands when you breathe. Most of us tend to chest breathe, especially when we're sick or in pain. This stressed, shallow chest breathing provides less oxygen to your brain and can make you dizzy, light-headed, or faint. Test to see if you're chest breathing by putting a hand on your chest and see if it rises when you inhale.

In contrast, relaxed belly breathing uses your diaphragm and stomach muscles. When you belly breathe, you train your breath to go lower and slower, which increases your blood oxygen level, improves circulation to facilitate healing, turns off your SNS to calm your body, and helps reduce pain volume.

How to do it:

Set aside five minutes for this activity. You can download a recording of this exercise at http://www.newharbinger.com/33522 or ask someone to read it to you.

Check in with your body and emotions:

Stress or anxiety level (0 = none, 5 = moderate, 10 = extreme): _____

Pain rating (0 = none, 5 = moderate, 10 = severe): _____

Find a quiet place where you won't be disturbed. Turn off your screens or put them away. Set an alarm for five minutes. Lie or sit somewhere comfortable and quiet, like a couch or the floor. Uncross your arms and legs, and close your eyes. Place one hand on your belly and the other hand on your chest.

Focus the spotlight of attention on your breath.

Remind yourself that, in this moment, you have nowhere else to be and nothing else to do.

Take a slow, deep breath in.

Notice how the air feels at your nose. Notice whether it's warm or cool, and how it feels going down into your lungs.

On your next inhale, send the breath down into your belly. If the hand on your chest moves, send the air lower, into your belly.

As you breathe in, feel your belly expand as if it's a balloon. Feel the hand on your belly rise.

Hold your breath for a moment, and notice your belly, full of air. Notice the urge to exhale.

Then release the breath slooowly. As you exhale, let your shoulders drop and your back relax. Feel your stomach muscles relax. Notice your hand lowering as the air leaves your belly. Feel the air exit your nose and notice whether it's warm or cool.

Take another breath in. Focus all your attention just on your breath. Let your breathing be low and slow.

With each in-breath, send the air all the way down into your belly. With each out-breath, say "relax" to yourself and imagine all the tension draining out of your body.

Do this until the timer rings. If your mind wanders, simply bring the spotlight of attention back to your breath.

Check in with your body and emotions:

New stress or anxiety rating (0 = none, 5 = moderate, 10 = extreme): _____

New pain rating (0 = none, 5 = moderate, 10 = severe): _____

What did you notice about your body? Your emotions?

_____

_____

_____

Body Scan

The body scan is another pain-control technique that combines mindfulness, relaxation, and *somatic* (body) awareness to help you manage pain. It helps redirect attention, tunes you in to physical and emotional stress, and releases any tension you might be holding.

How to do it:

This activity takes only a few minutes, and you can make it as long or short as you like. You can download a recording of this exercise at http://www.newharbinger.com/33522 or have someone read it to you.

Check in with your body and emotions:

Stress or anxiety level (0 = none, 5 = moderate, 10 = extreme): _____

Pain rating (0 = none, 5 = moderate, 10 = severe): _____

Find a quiet place where you won't be disturbed. Turn off your screens or put them away. Set an alarm for five to ten minutes. Lie somewhere comfortable and quiet, like a couch or the floor. Use a blanket to keep your body warm. Uncross your arms and legs, and close your eyes.

Place one hand on your chest and the other on your belly.

Take in a slow, deep belly breath.

Focus your spotlight of attention on the air as it travels through your nose.

Notice whether the air is warm or cool, how it tickles the inside of your nose.

Send the air down into your belly. Feel your belly expand like a balloon; feel the hand on your belly rise. Hold the breath for a moment. When you exhale, release the breath slooowly. Feel the air at your nose as you breathe out, and notice whether it's warm or cool. Focus all your attention on your belly breaths.

Now send your attention down to your feet. Without moving them, feel your feet in your shoes. Notice the fabric of your socks on your skin. Feel your heels touching the couch or floor. Notice whether your feet are warm or cool. If there's any tension in your feet, let that tension go.

Sense up into your ankles, shins, and calf muscles. Feel the backs of your calves on the couch or floor. Feel the fabric of your pants on your skin. Notice whether your shins are warm or cool. If there's any tension in your lower legs, shins, or calves, let that tension go.

Sense into your upper legs, thighs, quads, and hamstrings. Feel the fabric of your pants on your legs. Notice the backs of your thighs on the couch or floor. Notice whether your upper legs are warm or cool. If there's any tension in your thighs, quads, or hamstrings, let that tension go. Let your legs be heavy…limp…loose…and relaxed. Imagine they're melting into the floor.

Sense into your hips and up into your belly. Feel your hand resting on your belly, and notice warmth there. Feel your belly fill with air as you breathe in…feel your stomach muscles relax as you slowly breathe out. Sense into your stomach and notice whether you're hungry or full, if your stomach is making any sounds. Without judgment, observe your belly. If there's any tension in your stomach or intestines, see if you can let that tension go. Allow your stomach and intestines to completely relax and unwind.

Sense into your chest, heart, and lungs. Notice your pulse as your heart pumps blood around your body. Feel your warm hand on your chest. Notice your lungs expand when you breathe in, and relax when you breathe out. If there's any tension in your chest, heart, or lungs, see if you can let that tension go.

Send your attention to your shoulders. Let your shoulders slump, as if gravity is pulling them down. Sense into your arms, noticing whether they're warm or cool. Feel the fabric of your shirt on your skin. Let relaxation flow from the top of your shoulders, through your elbows, into your forearms, wrists, hands, all the way into your palms and fingertips. Feel your warm hands on your chest and belly. If there's any tension in your shoulders, arms, hands, or fingers, let that tension go. Let your arms be heavy…limp…loose…and relaxed.

Sense into your back. Notice your upper back, middle back, lower back. Feel the fabric of your shirt on your skin. Feel the couch or floor against your back, noticing how you're supported. Notice whether your back is warm or cool. If there's any tension in your upper, middle, or lower back, let that tension go. Let the muscles in your back just relax.

Send your attention up your neck and around to the back of your head. Feel your head supported by the couch or floor. Notice where your head touches the pillow; feel your hair on your neck and scalp. Notice whether your neck and head are warm or cool. If there's any tension in your neck or head, let that tension go. Allow your neck and head to feel heavy and relaxed.

Send your attention to the muscles of your face. Notice your facial expression. Sense into your forehead, temples, eyebrows. Feel your eyes behind your eyelids. Sense into your cheeks and jaw muscles, and let your jaw hang open as it relaxes. Sense into your mouth and notice your tongue. If there's any tension anywhere in your face, let that tension go. Let all the muscles be limp, loose, and relaxed.

Sense into your ears and notice everything you can hear. Silently list the sounds in your environment without any judgment. What can you hear? If you start thinking about other things, gently bring your attention back to your ears.

Now do a full scan of your body, from the top of your head, down to your neck, chest and back, down your shoulders and arms, your stomach and hips, your legs, past your knees, all the way down to your toes. Let your whole body be heavy, warm, loose, and relaxed. Notice how safe you feel. This is your safe, relaxed place. You can come back here whenever you choose.

Now, with eyes still closed, picture the room you're in. Wiggle your fingers and toes, and when you're ready, slowly open your eyes.

Check in with your body and emotions:

New stress or anxiety rating (0 = none, 5 = moderate, 10 = extreme): _____

New pain rating (0 = none, 5 = moderate, 10 = severe): _____

What did you notice (physically and emotionally)? Were there any surprising sensations or sounds? Where did you discover tension?

_____

_____

_____

Pocket Relaxation

Now that you know how to relax both mind and body, here's a one-minute "pocket" relaxation to take with you wherever you go. Carry it in your pocket to use in class, the nurse's office, the dentist's chair, when you're stuck in traffic, or anytime you have a pain flare-up. No one needs to know you're doing it. It will help you catch stress, pain, and tension before they get too intense, and takes only a minute to do.

How to do it:

Find a place for a private time-out, or simply stay where you are. Close your eyes if that feels comfortable, and put one hand on your belly. Take a deep belly breath. Hold it for a few seconds, feel it in your body. Now slooowly exhale, and say "relax" to yourself. Let your whole body relax: the top of your head…face…neck and shoulders…arms…hands…back… around to your chest and stomach…hips and legs…knees…all the way down to your toes. Let your body get limp, heavy, and loose, like a wet noodle. Imagine stress and pain draining out of your body like a liquid, flowing out your feet and down into the ground. Hold that relaxed feeling, and slowly count to twenty. When you are feeling calm, slowly open your eyes.

Remember—the more you use this skill, the better you get at it! Try it a few times a day and see how you feel.

Here's David's story:

> *David has a painful dermatological condition that follows him around all day. Sometimes he's so uncomfortable at school that he can't sit in his chair. When David has a flare-up, his teacher gives him permission to go to the nurse's office. He brings along headphones so he can listen to relaxation and mindfulness apps to turn down pain volume. Some days, he needs to use pain-control techniques in the classroom. When this happens, David closes his eyes and uses his mind to scan his whole body, head to toe, and relax any tense muscles. He imagines stress flowing out of his body like black ink, sinking down into the ground. This helps him soothe, feel more in control of pain, and brings his attention back to class.*

Write down your own ideas for using pocket relaxation:

(Examples: *At my brother's hockey game; before a test; while watching TV*)

_____

_____

Imagery

Another great mind-body technique is called *imagery*. Imagery allows you to use mental images to see, smell, hear, feel, and taste things that exist only in your mind—as with dreams and memories. In fact, every time you've daydreamed in a boring class, had a scary nightmare, or fantasized about what prom might be like, you've used imagery!

Amazingly, research shows that you use the same parts of your brain when *imagining* pain as you do when actually experiencing pain. If your brain believes you need protection—even if the danger is imagined—it will produce pain. Mental images also control physiological responses, so if you remember or imagine a stressful or painful event, your body will initiate a stress response. For example, vividly imagining or remembering a terrifying car crash triggers an emergency response: adrenaline pours into your bloodstream, your muscles contract, your

heart rate increases, and your pupils dilate. If you remember or imagine pain, you may even feel physical pain.

On the other hand, if you imagine feeling safe, content and calm, and let your body relax, pain volume will decrease. In the exercises that follow, you'll use images to control your pain dial.

Safe-Place Imagery

Have you ever noticed that certain environments (like the dentist's office) make you feel stressed, while other environments (like a beautiful beach) make you feel calm? Well, you don't need to go to the beach to achieve calm: your brain can transport you to peaceful environments just by using imagery. In this exercise, you'll use your five senses to help your mind travel to a safe, relaxing place. This technique teaches your brain that your body is safe and facilitates relaxation to turn the volume down on pain.

How to do it:

Set aside ten to fifteen minutes for this activity. You can download a recording to listen to at http://www.newharbinger.com/33522 or have someone read it to you.

Check in with your body and emotions:

Stress or anxiety level (0 = none, 5 = moderate, 10 = extreme): _____

Pain rating (0 = none, 5 = moderate, 10 = severe): _____

Find a quiet place to sit or lie down. Turn off your screens or put them away, and close your eyes.

Take a few slow, deep, belly breaths. Imagine a safe, relaxing place, preferably in nature, that you've visited or made up. This safe place can be a beach, a trail in the woods, a mountain cabin, even your grandma's house—as long as it makes you feel safe and relaxed. Picture this place and use your five senses to complete the imagery activity below. Use the example to guide you.

Dr. Z's example:

My safe, relaxing place is a beautiful beach in Mexico.

Sight: I'm standing on a beautiful stretch of beach in Mexico. As I look around, I see colorful beach umbrellas, twinkling seashells, and the ocean stretching as far as the eye can see. The water is a peaceful, dark blue and the sand is golden-white. Waves lap gently at my feet, which are buried in the warm sand. Green palm trees with clusters of coconuts line the shore. The sun is setting, and the sky is filled with brilliant colors—orange, purple, magenta—as seagulls circle overhead.

Sound: I close my eyes and hear the sounds of wind and water. I hear boats rocking, kids splashing, waves crashing, people laughing. I notice seagulls calling and palm trees rustling in the warm breeze.

Smell: I inhale the scents of the beach. I smell salt water, seaweed, warm sand, and the faint scent of sunblock on my skin.

Touch: I notice the warm, wet sand between my toes and the cool ocean water lapping against my ankles. I feel the sun warming my skin and the breeze in my hair. I notice the feeling of my clothes on my skin—my wet bathing suit, my dry sundress.

Taste: I taste the saltiness of seawater. I imagine drinking a cold glass of lemonade on this hot, relaxing day, and feel the cool liquid going down my throat.

Your example:

Your safe, relaxing place is: _____

Look around your safe place. Notice the shapes, colors, textures. Describe the time of day, and who is there with you. Notice the sky and clouds. Is the sun setting or is it morning? Describe everything you see:

_____

_____

_____

_____

Describe everything you hear:

What can you smell?

What can you feel? Notice textures, temperatures and touch:

What can you taste?

After describing this safe place, let yourself really be here. Completely relax into the scene. If thoughts drift into your head, that's okay—just bring your attention

back to this place. You carry this relaxing place with you wherever you go. You can come back anytime you choose, whether at school or in the doctor's office!

When you have completed this activity, slowly bring your attention back to the room you're in. Check in again with your body and emotions, and notice any changes:

New stress or anxiety level (0 = none, 5 = moderate, 10 = extreme): _____

New pain rating (0 = none, 5 = moderate, 10 = severe): _____

What did you notice as you did this activity?

_____

_____

_____

This is a great activity to use if you're having trouble falling asleep. Sleeping is always easier when you feel safe and relaxed!

Self-Healing Imagery

Just as your brain can transform environments outside your body using imagery—from a boring bedroom to a Mexican beach—it can also transform the environment inside your body. Have you ever woken up panting and sweaty from a nightmare, your heart pounding? It was just your imagination, but your body reacted with genuine fear, as if the threat was real. An effective mind-body technique to change your pain response is called *self-healing imagery*, which uses the power of your imagination.

Try this: *Imagine holding a grapefruit. Feel the cool, round shape of the fruit in your palm. Imagine cutting it in half and inhaling the citrus scent. Squeeze the tart, pink juice into a glass and raise it to your mouth. Take a big mouthful of grapefruit juice. Inhale the smell, feel the tangy taste and texture on your tongue, feel the bittersweet juice in your mouth as you swallow.*

Is your mouth watering as if the experience is real? This happens because of the powerful connection between your imagination (your mind) and your body. Your body responds to the thoughts and images in your head. If you frequently imagine or remember pain, medical procedures, and other stressful events, your nervous system will prepare for an emergency by keeping you in a perpetual state of fight-or-flight. This turns *up* the pain dial, boosting pain volume. However, taking control of the images in your brain, and creating safe, calming images, lowers your stress—and turns the pain dial *down*.

How to do it:

This next imagery technique requires some assistance and creativity. It can be incredibly effective if you're willing to play along. To transform your pain, first read Glenn's examples that follow each step—as well as Karen's and Erik's, which follow immediately after the activity—so that you understand how this technique works. Then ask someone you trust to read the steps to you and ask you the questions listed.

Set aside fifteen minutes for this activity. You can download this exercise at http://www.newharbinger.com/33522 .

Lie down in a quiet place where you won't be interrupted. Turn off your screens or put them away, and close your eyes.

Take a few deep belly breaths, then slowly exhale. Belly breathe for a few minutes until your body starts to relax.

Step 1. *Travel inside your body now, into the place where you hurt, and focus all your attention on the pain. Notice the color, size, shape, and texture of the pain. Notice if it's dark or bright, heavy or light, hot or cool, thick or thin, solid or liquid, static or moving. Try to describe everything you notice about your pain.*

Glenn's pain image: Glenn's pain covers an extensive area of his leg. The most intense area of pain is his knee. This pain is in the shape of a pointy spear tip. It is hot, orange-red, and sharp. When Glenn closes his eyes and senses into his leg, the pain feels like a hot orange liquid, like lava from a volcano oozing outwards in a circle.

What does your pain look like? Describe its color, temperature, size, shape, texture, and movement.

This is your *pain image*.

Step 2. *Now imagine this part of your body without any pain. When this part of you is pain-free, what does it look like? What color, temperature, size, shape, weight and texture is it? Is it moving or static?*

Glenn's pain-free image: Without any pain, Glenn imagines that his knee is a cool wintry blue and smooth. The skin around the spearhead is cool and pale. It is solid and doesn't move. The circle of pain in his leg is shrunken and small.

Your pain-free image:

Step 3. *Imagine you can use magic to transform your pain. What magical process does your body need to transform the pain image into the pain-free image? Whatever you need to do to change your pain, imagine you can do it! This process can involve a change in color, temperature, size, shape, weight, speed, substance, or texture. You can imagine doing anything to your pain: turn it from orange to blue; cool, heat, or melt it; shrink or grow it; give it a blast of warm sunlight, icy wind, a deep massage, or a gentle touch; slow it down or speed it up; melt it or harden it; shave off parts or change its shape; change the texture or give it padding.*

Glenn's transformational process: To transform his pain from one state to the other, Glenn sends an icy cold waterfall down the inside of his knee. He imagines bathing his fiery orange pain in cascade of soothing, icy-blue water until he can feel his circle of pain shrinking and cooling. Since his pain image is sharp and pointed, he imagines the water wearing down the spear until it softens and smooths.

Your transformational process:

_____

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_____

With your eyes still closed, imagine this self-healing process is actually working. Send the part of your body that hurts this magical healing process, and picture the pain changing. Imagine you are transforming your pain.

Slowly bring your attention back to the room. Before sitting up, do a check in: What did you notice changing as you did this activity (color, temperature, size, pain intensity)? How did your body feel?

_____

_____

_____

_____

Check in with your body and emotions:

New stress or anxiety level (0 = none, 5 = moderate, 10 = extreme): _____

New pain rating (0 = none, 5 = moderate, 10 = severe): _____

Try this imagery technique anew each time you have a pain episode. Pain is always changing! Try not to rely on old pain images or memories to inform your current experience—instead look inside each time.

Karen's example: *Karen's pain is a migraine. The pain is a thick, black, oozing fluid that clogs her head between her eyes and makes it throb at the temples. This painful metallic fluid is filled with sharp barbs that prick the inside of her skull.*

When Karen imagines her head pain-free, it is shiny, white, and clear, like an empty glass without any fluid. The texture is smooth and has no barbs. Her head feels light rather than heavy.

To transform her pain, Karen vividly imagines two holes magically opening in her temples. They are exit holes where the thick, black fluid drains out of her head and drips onto the ground. As the heavy metallic fluid flows out of her skull, it washes away the sharp barbs at her temples. She imagines her head feels lighter and that pain lessens as her head becomes weightless smooth, sparkling white, and clear as glass.

Erik's example: *Erik's has chronic pain in his stomach and intestines below his belly button. He describes his pain as a dark-green knot in his guts that is tight, twisted, hot, swollen, and lumpy.*

In his pain-free image, his stomach and intestines are untangled tubes: long, light pink, and healthy. The temperature is cool, and the texture is smooth without any lumps or tangles.

To transform the image from pain to pain-free, Erik imagines his intestines relaxing, untangling, loosening, and elongating. He sends his intestines a minty cool blue-green breeze to reduce heat and swelling. The cool, wintry tingling of the mint permeates his belly. As this happens, his stomach changes from dark green to light pink. He belly breathes, his stomach relaxes, and his pain changes. With everything stretching out, there is more space in his stomach and intestines, and pain becomes less intense.

Conclusion

Mind-body skills like biofeedback, mindfulness, relaxation strategies, and imagery are powerful tools to manage and cope with pain and physical symptoms. In the next chapter, we'll look at how your thoughts can change pain.

Chapter 5

Thoughts Affect Pain

Connect the Thoughts in Your Head with the Sensations in Your Body

Have you ever noticed that thoughts like *I'll never get better!* make you feel worse, while telling yourself *It's going to be okay!* can make you feel a little better? Research shows that stressful, negative thoughts—like the ones we have when we're sick—can exacerbate and even *cause* health problems and pain. For example, as you learned in chapter 2, negative thoughts and feelings activate stress hormones that can trigger headaches, stomachaches, and muscle pain. They can also trigger the release of chemicals called *cytokines* that can exaggerate or suppress the body's immune response. This means that negative thoughts aren't just in your head—they can also affect your physical health.

The good news is that there is also a connection between calming, positive thoughts and health. Positive thoughts that inspire relaxation, happiness, gratitude, self-compassion, and optimism facilitate improved immune functioning, lower risk of disease, and better overall health. They can also turn down your pain dial, lowering the volume on pain. This means that…drumroll, please…changing your thoughts can change your pain!

There are many ways to transform negative, harmful thoughts into helpful, healing thoughts. These thought-changing techniques are called *cognitive strategies*. In fact, the *C* in CBT stands for *cognitive*, a fancy word for thoughts. Mindfulness techniques also focus on noticing thoughts and shifting attention. These cognitive strategies help you tune in to, identify, and change the negative thoughts associated with pain and illness that keep you feeling miserable, low, and distressed. In

this chapter, you'll learn strategies to change your thoughts to reduce stress and anxiety, lift your mood, and shift your attention away from pain. Give them all a try and see which work best for you!

Negative Self-Talk

We all engage in *self-talk*, or the things we say to ourselves when we think. Teens with pain and illness often experience *negative self-talk*, or negative thoughts about themselves, life, or pain, that brings them down and makes them feel worse. The first step to changing these thoughts is to pay careful attention: if you listen closely, you just might be able to hear what Pain Voice, or Sick Voice, is telling you.

Pain Voice

Pain Voice is your inner bully, the voice in your head that tells you awful, worrisome things. She's pessimistic, critical, and negative. You can recognize Pain Voice because she's very loud! She yells into a megaphone, drowning out all other thoughts—especially calm, logical ones. What she tells you sounds like the truth, but when you test these thoughts, you discover they're false. Pain Voice pretends she can predict the future and says it's going to be terrible. She says: "You'll never get better. Nothing will ever help you." But since she can't predict the future (who can?), Pain Voice is a liar!

Pain Voice is also very bossy about what you can and can't do: "You can't see your friends this week," or "You can't go for a bike ride, and you definitely can't have any fun." Basically, Pain Voice makes you miserable.

Pain Voice = *Exaggerated* / *Negative* / *Critical* / *Untrue* *thoughts*

Picture your Pain Voice. Notice she's not you—she's just a bully in your head who thinks she's in charge. I picture my Pain Voice as a bossy blonde girl with a ponytail and plaid skirt. She has mean, bulging eyes, V-shaped eyebrows, and yells into a megaphone. I call her Beasley. My bully, Beasley, is a major *pain*.

Picture your Pain Voice. What does this voice look like?

Name your Pain Voice. _____

Tune in to your Pain Voice and really listen hard. You've heard her a million times before. What kinds of negative, critical, scary, self-defeating, mean things does she say to you? The next page lists some common Pain Voice thoughts. Circle the ones that are familiar, and add your own:

I'm broken.

My life is always going to be like this.

I can't do anything on days I'm sick or in pain.

There's no point trying this treatment because nothing has helped so far.

Nothing will ever help me.

Nobody understands what I'm going through.

I'm in this alone.

I'll never get better.

When I hurt, this means my body is in danger of harm.

My friends have all moved on without me.

Things are harder for me than for everyone else.

I'm being punished.

My life sucks.

I'm so far behind in school that I'll never catch up.

Everyone thinks I'm faking.

Pain is ruining my life.

Pain is ruining my future.

I'll never get into a good college because I've missed too much school.

Bad things always happen to me.

I'll never be in shape like I was before.

My body hates me.

Tomorrow is going to be as bad as today.

_____

_____

_____

_____

The Voice of Wellness: Wise Voice

Fear not, brave friend—because you have another voice inside you, your *Wise Voice*. She is logical, calm, and smart. She helps you feel *better* instead of worse. You can recognize her encouraging, compassionate, and kind messages. As someone who loves you a whole lot, she sounds like your parents or best friend. Since Wise Voice is soft-spoken, loud Pain Voice usually drowns her out.

Wise Voice = *Logical* / *Encouraging* / *Compassionate* / *True* *thoughts*

Picture your Wise Voice and bring her to life. My Wise Voice is an older woman with gray hair in a bun. She sits peacefully smiling with legs crossed, eyes closed. She is wise, calm, and confident. I call her Clara because she is clear and bright.

Picture your Wise Voice. What does this voice look like?

Name your Wise Voice. _____

To help heal from pain and illness, we need to quiet Pain Voice and replace her with Wise Voice. But how?

Prove Pain Voice Wrong in Three Steps

Your bossy Pain Voice loves to be right. In order to shut her down, you must first catch negative thoughts (Beasley, is that you?) and thoughtfully determine, or check, whether or not what she's saying is true. What if the thought isn't a fact? What if the only purpose of the thought is to bully, squish, and fill you with self-doubt?

Because negative thoughts increase pain, make sure you don't thoughtlessly, automatically believe them. As soon as you recognize Pain Voice (It *is* you, you beastly bully!), you gain the power to change negative thoughts into more helpful, Clara-clear, Wise Voice thoughts.

Here's an overview of the three steps to shift from Pain Voice to Wise Voice. We'll use the rest of this chapter to become experts in steps 1 and 2. You'll learn how to change thoughts (step 3) in chapter 6.

- **Step 1:** Catch it.

  Get familiar with your recurring Pain Voice thoughts so you can recognize them the instant they happen. Slow them down so they're no longer automatic. Remember your *triggers* from chapter 1—what situations and emotions activate negative thoughts?

- **Step 2:** Check it.

  Once you've caught Pain Voice, question her to determine whether that negative thought is true. Gather logical evidence against it. Then challenge thoughts that are harmful, exaggerated, or flat-out untrue.

- **Step 3:** Change it.

  Use the evidence you gather to replace Pain Voice with the voice of wellness, your Wise Voice. At first, you may not hear Wise Voice very often, but she's even more powerful than Pain Voice. When you start noticing her kind, compassionate messages, she'll get even stronger.

Step 1: *Catch Pain Voice Using Thinking Traps*

It's normal to have a loud, negative Pain Voice when you're sick or in pain. These negative thoughts sound like the truth (*My life sucks!*) and trap you into believing them, but they're stressful, exaggerated, and untrue. Pain Voice thoughts are called *thinking traps*—distorted, negative thoughts that bring down mood, spike stress and anxiety, and lead to unhealthy behaviors like avoiding exercise, school, people, and activities. Thinking traps are dangerous because they *feel* true even if they're not *factually* true.

So how do you distinguish thinking traps from the truth? Well, you become a thought detective, capturing thoughts and examining evidence. One way to recognize a trap is to notice how a thought makes you feel. It is a *helpful* thought, or is it *harmful*? Check the list of Pain Voice thoughts you circled earlier—do they make you feel hopeful and inspired, or discouraged and miserable? Traps make you feel worried, sad, hopeless, or angry. Go through the following thinking traps and identify familiar thoughts.

BLACK-OR-WHITE THOUGHTS

When things seem black or white, all or nothing—if something isn't perfect, you see it as a total failure. *If I don't get an A on this exam, I'm a failure.* Or *I can only be happy if I don't have pain.*

Do thoughts like these sound familiar? Y N

Name one of your black-or-white thoughts:

_____

Is this thought *helpful* or *harmful*? (Circle one.)

This thought is a trap because the world doesn't exist in extremes. It's rare that you're at one extreme or the other, either the tippy-top of your class earning the highest grades on every test (black) or the other extreme, at the very bottom getting all Fs (white). Most of the time, you're somewhere in the middle (gray!). When you notice yourself going "black or white," remind yourself to "go gray" and imagine possibilities in the middle.

OVERGENERALIZATION

You believe that a single negative event, like a bad grade or a hard day, is an enduring, lifelong pattern. You use words like "always," "never," "everybody," "nobody," "all" and "nothing." *I don't have friends, nobody will ever like me.* Or *I can never do anything when I'm sick or in pain* or *My (whole) life sucks!*

Do thoughts like these sound familiar? Y N

Name one of your overgeneralizations:

_____

Is this thought *helpful* or *harmful*? (Circle one.)

This thought is a trap because one negative event isn't representative of all events. Does *everything* about your life suck because you had one bad day? Is it true *nobody* likes you or will *ever* like you? I call these *warning words* because they're dangerous exaggerations and rarely true, and they indicate that you've fallen into a thinking trap. Replace warning words with balanced words like "some" and "sometimes"; for example, *Today wasn't a great day, but not everything was bad. Good things happened, too.*

FILTERING

You focus on negative information and ignore the positive; for example, when you accept criticism and negativity, but reject compliments and kindnesses. *You get many positive comments on an Instagram post, but one person is critical. You obsess about this negative comment for days and ignore the positive feedback.*

Do thoughts like these sound familiar? Y N

Name a time you filtered:

_____

Is this thought *helpful* or *harmful*? (Circle one.)

This thought is a trap because your brain selectively, erroneously focuses on negative information and ignores the good. Why does one bad comment count more than a good one? You may dismiss a compliment by thinking *She's just being nice because she's my friend*, but what if she means it? It's easy to accept criticism over compliments, but if you only accept negative information, your mood and self-esteem will crash.

MISINTERPRETING

You believe an innocent body signal means something dangerous or harmful. Common examples include interpreting symptoms of anxiety, like a racing heart or chest pain, as a sign you're having a heart attack; interpreting stress-based stomachaches as an illness; or deciding that tingling in your arms or legs means you're having a stroke rather than panicking. You might also believe that all pain indicates that your condition is worsening when that may not be true.

Do thoughts like these sound familiar? Y N

When have you misinterpreted body signals?

_____

Is this thought *helpful* or *harmful*? (Circle one.)

This thought is a trap because misinterpreting body signals leads to anxiety, panic, and worried thoughts like: *What's happening to me?* Before you jump to conclusions, try listing likely alternatives. Is it more likely you're having a heart attack or that you're nervous about an upcoming test or medical procedure? And that stomachache may be the effects of stress on your gut's enteric nervous system, one of your body's emotion centers! It's possible that physical sensations don't indicate something medically dangerous.

MIND READING

You believe people are thinking negative things about you without even asking them. You "know" what's in other people's minds even though you have no evidence. *Those girls don't like me.* Or, *they all think I'm faking.*

Do thoughts like these sound familiar? Y N

When have you read minds?

_____

Is this thought *helpful* or *harmful*? (Circle one.)

This thought is a trap because while it would be amazing to read minds, chances are you don't have that superpower (sorry!). Want to test it out? Ask someone to think of a number between zero and one hundred and try to guess it on the first try. If you can't do it, this means you *can't actually read minds.* Assuming other people are thinking bad things about you is a surefire way to feel anxious, angry, and upset.

FORTUNE-TELLING

You believe you can see into the future and predict that things are going to be bad. Before a test you think, *I'm going to fail.* If you're sick or in pain, you think, *This treatment won't work.* Or, *I can't go on like this.*

Do thoughts like these sound familiar? Y N

When have you tried to predict the future?

_____

Is this thought *helpful* or *harmful*? (Circle one.)

This thought is a trap because…*Wait!* You can predict the future? Wow, we're gonna be rich! Quick, what are next week's winning lottery numbers? … Wait, what? You don't know? [Sigh.] Well, I guess that means you can't predict the future. If you're sick or in pain, predicting a negative, pain-filled future can make you feel terrified, depressed, and hopeless.

CATASTROPHIZING

You believe that the worst thing that *can* happen is *going* to happen. You wake up with a stomachache and think, *If I go on the class trip, I'm going to vomit and need to go home.* Or, *I've had pain for three days; that means I'm getting worse!*

Do thoughts like these sound familiar? Y N

What's one of your catastrophic thoughts?

_____

Is this thought *helpful* or *harmful*? (Circle one.)

This thought is a trap because instead of just predicting the future, you're predicting the *worst possible version* of it! When you predict catastrophes, you become anxious and upset, and avoid the things you're worried about. But since you can't predict the future, this is a trap! (If you *can* predict the future, please call me.)

HURT = HARM

You believe that all pain is an indication of bodily harm. *When I move my back, it hurts; therefore moving must be bad.* Or, *Going for a walk with a headache will make my condition worse.*

Do thoughts like these sound familiar? Y N

When have you assumed that hurt = harm?

_____

Is this thought *helpful* or *harmful*? (Circle one.)

This thought is a trap because things that *hurt* don't necessarily mean your body is being *harmed*, as you learned in chapter 1. Of course, there are times when pain indicates bodily harm and you need rest. But sometimes pain is a false alarm due to your overly sensitive pain system. In fact, movement and exercise are critically important components of chronic pain treatment! Activity and stimulation desensitize your brain and help you cope with pain.

LABELING

You call yourself a negative name or give yourself a label. Instead of saying *I made a mistake*, you think to yourself, *I'm an idiot.* Teens with pain or illness sometimes think, *I'm broken.*

Do thoughts like these sound familiar? Y N

Write one label or name you've called yourself:

_____

Is this thought *helpful* or *harmful*? (Circle one.)

This thought is a trap because calling yourself names only makes you feel bad about yourself. Self-esteem crashes, mood worsens, anxiety spikes, and pain volume intensifies. Be kind to yourself instead…being sick and in pain is hard enough as it is!

PERMANENCE

You believe things are permanent, and that the way things are right now is the way they will always be—forever. *My pain will never go away.* Or, *I'll never get better.*

Do thoughts like these sound familiar? Y N

What thoughts of permanence have you had?

_____

Is this thought *helpful* or *harmful*? (Circle one.)

This thought is a trap because teenagers are great at believing that now = forever! The only thing certain about life is that things constantly change. Pain changes all the time, so it could change for the better. Believing a rough patch is permanent can lead to depression and anxiety. Remember: you can't predict the future!

Step 2. *Check Pain Voice Using Detective Questions*

Once you've caught a negative thought, how do you determine whether it's true? It's time to *check* Pain Voice! If you continue to accept these thoughts as facts, pain volume will remain high. Assess truthfulness using the following detective questions. These logical, fact-based questions help you access your Wise Voice—the kind, calm voice that knows the truth. The moment you recognize that a thought is a thinking trap, you gain the power to change it. Here's how Cam applied detective questions to catch and check Pain Voice:

After a concussion kept Cam out of school most of junior year, she worried about her academic performance. She still had headaches, her balance was off, and she still occasionally missed school. Diagnosed with post-concussion syndrome, she grew increasingly concerned about how this would impact her future. Cam felt overwhelmed about grades and sometimes panicked before tests.

Cam learned cognitive strategies to help manage her pain. After writing down Pain Voice thoughts, she began recognizing them. Her Pain Voice was a snotty girl she called Pam. Pam the Pain Voice dressed in tight black clothes, had a short bob, wore lots of makeup, and constantly criticized Cam.

Cam noticed that her negative thoughts were frequently about her future. Sometimes she believed these thoughts and got trapped by them. The thinking trap that bothered her most was I missed so much school that I'll never get into college. *This thought sounded true, even though it was harmful and made her feel terrible. But this fortune-telling prediction was just Pain Voice Pam making her anxious and miserable. Because she could catch it, she was able to check it.*

Cam used the following detective questions to determine whether this prediction was the truth or a trap.

Thought: I missed so much school that I'll never get into college.

Is it a fact? (Note: a *fact* means it is unquestionably, absolutely, certainly true.)

No, it isn't a fact that I won't get into college.

Are you predicting bad things?

Yes. I'm predicting that, because I missed junior year and it affected my grades, I'm not going to get into college. But since I can't predict the future, this fortune-telling thought is a trap.

Are you using a *warning word*? (all/nothing, everyone/no one, always/never/forever, best/worst…)

If I'm thinking I'll never get into college, this thought is a trap.

What evidence do you have that this might *not* be true?

Last year, my friend Benji got a concussion playing hockey and missed two months of school—and he got into college. I know students who didn't have stellar grades and they got into college. My sister's grades were worse than mine, and she went to community college and then transferred. I could do that, too. Maybe my prediction is wrong.

What has happened in the past?

Since this is my first time applying to college, this question doesn't apply.

What's the likelihood this bad thing will actually happen? (Try to give a percentage; for example, 1 percent = 1/100.)

If I applied to a hundred schools, some safeties and some reaches, I'd certainly get into one of them! The likelihood that I won't get in anywhere is probably zero percent.

What else—neutral or positive—might happen in this situation other than what you're predicting?

Neutral: I could apply to schools with my average grades and get rejected by a few and get accepted by a few, just like most other students.

Positive: Because of what I've been through, I could write my college essay about post-concussion syndrome and maybe even earn a scholarship!

What's the worst-case scenario? Could you handle it?

Worst-case scenario would be rejection from all schools. I'd be devastated…but it wouldn't destroy me. I'd survive. I'd attend a local community college and could always transfer. Or I could take a gap year and volunteer at the zoo, like I've always wanted to do. So yes—I could handle it.

What would you say to your best friend or a family member who expressed this concern to you?

I would say: "It makes sense you're worried about getting into college after what happened. Your concussion and its aftermath have been terrible. I know it's been hard going from A-grades to being so dizzy and headachy that you miss tests and your grades crash. But this injury hasn't changed who you are: you're still smart, competent, and capable! If you want to go to college, you will. Your worry is reasonable, but it's not factual. Don't let Pam the Pain Voice get you down!"

Now it's your turn. Pick a thinking trap or Pain Voice thought and write it in the space below. Challenge this thought using the detective questions. Determine why this thought is flawed, and see if you can prove why it's a trap and not the truth!

Your negative thought: _____

Is it a fact? (Note: a *fact* means it is unquestionably, absolutely, certainly true.)

_____

Are you predicting bad things?

_____

_____

Are you using a warning word? (all/nothing, everyone/no one, always/never/forever, best/worst…)

_____

What evidence do you have that this might *not* be true?

_____

_____

_____

_____

What has happened in the past?

_____

_____

_____

_____

What's the likelihood this bad thing will actually happen? Try to give a percentage. (Reminder: 1 percent = 1/100. What this means is that out of every hundred instances, the terrible consequence you're predicting happened once. For example,

if you predict there's a 1 percent chance your airplane will crash, this means that out of every hundred planes that take off globally each day, one crashes.)

What else—neutral or positive—might happen in this situation other than what you're predicting?

What's the worst-case scenario? Could you handle it?

What would you say to your best friend or a family member who expressed this concern to you?

Conclusion

Now that you've learned to check and challenge Pain Voice, it's time to take her power away—and strengthen and empower Wise Voice. But how? In the next chapter, you'll learn Step 3: how to transform pain by transforming your thoughts.

Chapter 6

Transform Thoughts to Transform Pain

Change Pain Voice

In the last chapter, you learned how thoughts affect pain. You caught Pain Voice (step 1) and learned to check, challenge, and prove her wrong using detective questions (step 2). The next step, step 3, is to *change* Pain Voice and start talking back to her. This chapter will teach you to create factual, helpful Wise Voice responses to Pain Voice, and apply coping thoughts to fight back so that these thoughts can't hurt you. Never get bossed around again!

Thought Tracking

To bust Pain Voice, start tracking your thoughts. You can download a copy of this tracker at http://www.newharbinger.com/33522.

First, list your Pain Voice thoughts. Notice if they're helpful or harmful, whether they're the truth or a trap. Next, write out the answers to the detective questions—these are your Wise Voice responses. Your Wise Voice responses should include *evidence* as to why Pain Voice is wrong. At the end of this activity, you'll have a Wise Voice response ready for combat—so that every time you hear Pain Voice from now on, you'll be prepared to retaliate. Your Wise Voice grows stronger every time you use her!

Your Thought Tracker

Situation	Pain Voice	Helpful or harmful?	Trap or truth?	Wise Voice
Need to go to school after missing 3 weeks	If I go back to school, I'll be so far behind that I won't understand anything the teacher is talking about.	Harmful	Trap	This negative prediction is not a fact. I'll probably understand *some* things. I'm smart and competent. Last time I was behind, I made up the work and everything was fine.
Pain flare-up	I can't handle this!	Harmful	Trap	This negative prediction is not a fact. I've had 82 pain flare-ups this year, and I handled all of them. I've proven that I'm strong and resilient. There is a 0% chance I can't handle this.

Going Gray

Pain Voice and Sick Voice love speaking in black-or-white thinking traps. For example, it's easy to think that having pain or being sick means you can do *nothing*, while being pain-free means you can do *everything*. These exaggerated, extreme thoughts limit your ability to cope with pain and live your life.

One method for tackling these thoughts is to consider: what happens when you mix black (nothing) and white (everything) together? You get *gray*. When you notice yourself thinking in extremes, try to "go gray" and imagine possibilities in the middle. If high-pain days mean zero activity and low-pain days mean lots of activity, what options exist in the middle on days with some pain? Here's an example of how this works.

Black Thought: When I have pain, I can't do *anything.*
No school
Stop cello
No hiking
Don't see any friends

White Thought: When I don't have pain, I can do *everything.*
School daily
Cello after school every day
Hike every weekend
See friends daily

Gray Thought: On a day with *some* pain, I can do *some* things.
School for half day
Play cello at home for 10 minutes
Hike for 15 minutes on Sunday
Invite one friend over this weekend to watch a zombie movie

Here is how Marjorie went "gray":

Marjorie was a dancer who stopped entering dance competitions when she was diagnosed with a neuromuscular disease. After months of treatment with medication and physical therapy, her balance and coordination improved enough that her doctor cleared her to gradually start dancing again. But Marjorie was scared and believed she needed to keep resting. She hadn't gone to practice or seen her dance team since her diagnosis because it was too hard to watch them compete without her. On bad days, she curled on the couch with her cat and watched hours of TV. She felt miserable. The longer this went on, the less energy and motivation she had.

When Marjorie learned about "going gray," she realized Pain Voice was saying she'd never dance again and should quit the team. Her black-and-white thought was: When I'm symptomatic I can't dance at all, but when I'm symptom-free I can dance daily. *She developed a plan to try dancing for ten minutes on days with some symptoms.*

On Monday, she woke with fatigue, pain, and fear. She considered skipping dance as usual but reminded herself that a day with some symptoms meant she could do some things. She put on her dance clothes and did ten minutes of warm-up exercises, holding on to a bar for support. She was out of shape, but it felt good to put on dance shoes, great to stretch and move her body, and miraculous to discover that she didn't need to give up her love of dancing entirely just because she had neuromuscular disease!

You can practice going gray using the following table. Enter your black-and-white thoughts and corresponding activity levels. Then consider: how can you go gray on a day with some symptoms? Think of different categories like school, social, hobbies, after-school activities, and exercise. Use units of time and other measurements to make activity goals realistic, specific and achievable: for example, fifteen minutes of skateboarding three times this week at 5:00 p.m.

Black If I have pain, I can't do anything.	Gray If I have some pain, I can do some things.	White If I don't have pain, I can do everything.
If I'm in pain this week, I can't skateboard.	If I have some pain this week, I'll skateboard for 15 mins three days after school (M, W, F).	If I have no pain this week, I'll skateboard for as long as I want.

Coping Thoughts

Just as negative thoughts discourage you and make symptoms feel worse, *coping thoughts* help you feel better. Coping thoughts are soothing, calming thoughts that encourage you and reduce worry about pain. They help you get through your day, accomplish goals, and manage pain so that you can function. They come from your kind, compassionate Wise Voice, and remind your brain that your body is safe.

Coping thoughts are handy when Pain Voice gets loud, like when you have a doctor's appointment, pain flare-up, or an exam. As soon as you feel stressed, anxious, or angry—and hear your negative, pessimistic Pain Voice—pause, take a breath,

tell yourself to *stop*! Then use a coping thought instead. Coping thoughts sound like this:

- This episode will pass.
- I've had eighty-two pain flare-ups in my life and I survived *all* of them. I'll survive this one, too.
- I know how to cope with this.
- I'll distract myself with a game (puppy, TV show, friend) for fifteen minutes and see if it helps.
- I'm going to be okay.
- If I start having pain, I'll use relaxation strategies to lower pain volume.
- I'm working on getting better every day.
- I can use my self-soothing plan.
- I am strong!
- I'm not alone. I have love and support to help me get through this.
- Just breathe.

What are five kind, compassionate, calming things you can say to yourself when you're anxious or symptomatic, or hear Pain Voice? You can use any of these coping thoughts, or imagine the sweet, soothing things you'd say to friends or family members.

1. _____
2. _____
3. _____
4. _____
5. _____

Put a copy of these coping thoughts in your backpack, on your wall, and on your fridge. Practice coping thoughts daily so they become as familiar as your worried thoughts. Just as Pain Voice got strong with a lot of use, Wise Voice needs a chance to grow strong, too. The more you use her, the stronger she'll get—until she's loud enough to drown out Pain Voice!

Language Matters: Your Brain Hears Everything Your Mouth Says

You may think the things you say aren't very important. However, *your brain hears everything your mouth says*. The words you say aloud are transmitted from your mouth, to your ears, and relayed up to your brain for processing. So every time you say things like, "I'll never get better," or "*If* I ever play sports again" (instead of when), your brain hears this and *it believes you!* For this reason, it's very important to choose your words carefully.

Some common words that describe chronic pain or illness reflect powerlessness and low self-reliance. Circle any words that sound familiar:

sick	damaged	powerless
ill	disabled	
weak	broken	

When you say these words, do they make you feel good—like you can do anything—or bad, like you'd rather crawl under a blanket? Words focusing on pain and powerlessness keep you scared and miserable. Instead, flip that language upside down. Start using words that make you feel strong and empowered instead, like these:

resilient	competent	powerful
healthy	confident	
strong	capable	

If it feels hard to tap into your power right now, that's normal. Pain takes away power! But you can *take power back* by using powerful words, even if you have to fake it 'til you make it. Read the examples, then complete the following sentences:

I am *resilient* because:

(I never stop trying and always get back up when I get knocked down.)

I feel *healthy* when I:

(go swimming at the YMCA.)

I feel *strong* when I:

(walked up to the drama director and asked if I could act the lead role.)

I am *confident* about (physical attributes, skills, accomplishments):

(my ability to spell complicated words.)

I am *capable* because I can do the following things on my own:

(repair computers, get myself to and from school.)

I feel *powerful* when I:

(go backpacking with Mom.)

Ten Good Things

This activity regulates pain by inspiring feelings of happiness and gratitude. Noticing the good things in your life, no matter how small, helps you focus on things for which you're grateful, lifting your mood and shifting attention away from pain to things that inspire joy. This trains your brain to notice people and experiences that generate feelings of happiness, inspiration, safety, and love. It also tunes you into things that make life worth living!

Research shows that gratitude practices and positive thoughts improve overall mood; increase your sense of meaning and purpose; reduce frustration, anger, and irritability; reduce loneliness; promote immune functioning; increase ability to cope with pain; reduce symptoms of illness; and improve overall physical health. In fact, a regular gratitude practice like this one can actually change your brain pathways!

Positive thoughts and gratitude also increases production of *serotonin* and *dopamine*, chemical messengers in your brain called *neurotransmitters* that regulate mood, sleep, appetite…and pain. For these reasons, the Ten Good Things activity can be a powerful pain management technique.

How to do it:

Find a quiet place to sit where you won't be disturbed for ten minutes. Turn off your screens or put them away. Make a list of ten things you are grateful for or that make you feel happy. These can be memories, kind things people have done for you, kind things you have done for others, a list of favorites (foods, movies, books, animals, vacations), activities you're looking forward to, people you admire, and any good things that have happened in your life. They don't have to be big things—they can be as ordinary as your cat purring or a gooey slice of pizza. It could be something that happened this week or many years ago. Here are some examples:

1. My wonderful friends
2. Hiking in the wilderness to find owls
3. The name Marjorie
4. Holding doors open for strangers

5. Learning about the brain
6. Bioluminescent jellyfish that make their own light
7. Freshly baked New York bagels
8. Tortoiseshell butterflies
9. Bookstores, especially ones with a secret door disguised as a bookshelf
10. Swimming in cool lakes in summertime

Yadira learned how to focus on the good things this way:

> *Yadira was miserable. Her chronic illness, despite being better than before, still caused her pain. She stressed about schoolwork, running the school newspaper, and captaining the golf team. She'd been fighting with her sister, which got so bad that last week her sister pushed her. On top of that, Yadira's boyfriend was leaving for college. These situational and emotional triggers made her body feel worse. On a scale of one to ten, her pain was an eleven.*
>
> *She was irritable and moody, thinking things like* There's nothing good in my life. *When Yadira learned the Ten Good Things activity, she started paying attention to the small things in her life that made her less miserable, even if only briefly—like pancakes for dinner and laundry warm from the dryer. For the next week, she listed ten things every day that made her grateful and happy. When she did this, Yadira noticed that her mood lifted and attention shifted, and she could focus on the good things in her life.*
>
> *After two weeks, Yadira framed her top twenty things, decorated the frame, and hung it next to her bed. She loved looking at it, and noticed that, on the days she wrote good things, her pain was easier to bear!*

To generate ten good things, finish the following sentences.

I feel grateful for…

_____

_____

_____

Something kind I did for someone (or someone did for me) was…

_____

Something that made me happy recently was…

_____

Write your ten good things here:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Imagine a Miracle

Another cognitive strategy for coping with pain is to *imagine a miracle.* Use your powerful brain to imagine a future free of struggle with pain and illness, in which you are living a good life. This exercise helps you overcome hopelessness by looking beyond obstacles that keep you stuck, and inspires you to think about goals and how you'll achieve them. Giving yourself permission to imagine a miracle can be transformative…it can also be a road map to health and healing!

How to do it:

Sit somewhere calm and quiet where you don't be disturbed. Turn off your screens or put them away.

Imagine yourself five years from now. Imagine that a miracle has occurred, and you've overcome pain and illness. You are happy, active, and fulfilled. You are wherever you dream of being, doing whatever you dream of doing: at your ideal school or job, living your ideal life. You are healthy, strong, and have achieved your dreams. After envisioning this miracle, answer the following questions, as Henry did here.

You wake up without any pain or illness. What's the first thing you do?

When I realize I have no pain, I jump out of bed and toss my crutches. My dog and I run to my best friend's house. We go to the ice cream shop (for breakfast!) and I run the whole way there.

How does it feel to be without pain or illness?

It feels amazing. I feel lighter. I walk and run whenever I want. I smile a lot.

What do you do for school or work?

I live in Mexico and teach English to children. I have a big community of family and friends and speak fluent Spanish. I love teaching and never miss a day of work.

What do you do for fun, and who do you spend time with?

I started a local softball team. I'm the fastest runner and always steal bases. I also listen to music and bake banana bread! I spend time with the other teachers, the kids I teach, and new friends.

Five years ago, you were struggling with pain and illness. What are the steps you took to get from there to here?

Five years ago, I had CRPS and couldn't walk. I was frustrated because I wanted to spend a summer volunteering in Mexico, but the program wouldn't admit me. I set a goal to get strong enough to walk with just one crutch by March. I went to physical therapy, did pacing and desensitization exercises, and learned CBT skills to manage pain. When my mood started improving, I had more motivation and energy. By March, I was strong enough to walk with one crutch; then without any by June. Since the Mexico program demanded I be able to run, I used pacing to start jogging. It took some time, but eventually I was able to run again! I went to Mexico to teach and it changed my life. This is my calling. Now I am fit, active, doing what I love, and I feel amazing!

What qualities do you have that enabled you to take these steps?

Tenacity, resilience, patience, and persistence

What helped the most?

Picking an end goal and a starting point. End goal = walk without crutches by summer so that I can go to Mexico. Starting point = go to PT daily and CBT weekly. Every successful baby step gave me momentum to continue toward the next small goal.

What obstacles did you face as you healed, and how did you overcome them?

At first I was scared to walk with pain. CRPS treatment required me to use my painful leg—but that hurt, so I avoided it. I also didn't have much motivation at first, but when I identified the meaningful goal of going to Mexico to teach, my motivation increased. I was determined to prove I could do it, and I did!

Conclusion

Pain Voice is powerful, but not more powerful than you. Wise Voice and coping thoughts—filled with compassion and good things—can help you take your power back. In chapter 7, you'll learn how sleep, nutrition, exercise, and friends can also be medicinal.

Chapter 7

Lifestyle Affects Pain

Brains Love Balance

Why do doctors ask about lifestyle decisions like sleep, nutrition, and exercise? Because your body craves *homeostasis*, or balance. When your body is out of balance, you're more prone to sickness and pain. Your body is happiest when you drink enough water, keep your blood sugar steady, sleep consistently every night, get sunlight, use your muscles, and aren't too sedentary. Not too little of anything, and not too much.

Your brain helps you balance by sending signals that something isn't right. For example, hunger pangs and headaches are signals that you're low on fuel and need to eat. Drowsiness and irritability can be signals that you need more sleep. When a room gets too hot, your body instructs you to shed that sweatshirt! Your brain has many ways of telling you that something's off balance—including physical symptoms like pain.

Being off-balance is a trigger for pain.

To prevent and cope with episodes of pain and illness, make a homeostasis plan:

- Eat three healthy meals + snacks each day.
- Set regular sleep and wake times to get eight to ten hours of sleep nightly.
- Drink water throughout the day.
- Exercise and move daily to keep bones and muscles strong.
- Go outside, be in nature, get sunlight.

In this chapter, we'll talk about important lifestyle decisions. We'll start with sleep since you do it every night!

Sleep Better to Feel Better

Sleep plays an important role in pain and illness. Pain can trigger various sleep issues: irregular sleep patterns, trouble falling asleep, nighttime awakenings, and poor sleep quality. This then triggers stress and anxiety about being unable to sleep, which turns up your pain dial. Lack of sleep is also associated with increased pain and worsening symptoms.

Human beings are *diurnal*, which means our brains are programmed to be alert and awake when the sun is shining, and to shut down and sleep at night. This is distinct from *nocturnal* animals, like owls and bats, whose brains are programmed to sleep during the day and wake at night.

Your sleep cycle is regulated by a brain structure called the *suprachiasmatic nucleus* (SCN). The SCN is your built-in alarm clock (how cool is that?). It influences your body's twenty-four-hour rhythms—when you get hungry, feel alert and active, and crash and need sleep. The SCN is programmed by sunlight, which means that you can "set" your SCN like you set your alarm at night. This is in part due to a brain chemical called *melatonin*, which regulates your sleep-wake cycle. This cycle allows your body to repair and refresh, and keeps you in sync with the sun and outside world.

However, when you're feeling sick and in pain, your sleep cycle is easily thrown off balance and homeostasis is disrupted. Poor sleep at night leads to sleeping late or napping in the afternoons. Daytime sleep makes it even harder to sleep at night. Lying in bed awake for hours triggers frustration and worry about your inability to sleep, making it even *harder* to sleep. This leads to yet another night of poor rest and sleep catch-up the next day…and around and around the cycle goes.

Sleep Tracking

Let's peek at your typical sleep habits. This will help determine what sleep strategies will be most helpful. Track your sleep habits for a week and record them here, or download a copy of this chart at http://www.newharbinger.com/33522.

Your Sleep Tracker

	Example	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Sun.
Bedtime	11pm							
Wake time	7am							
Number of naps	1 nap							
Insomnia?	No							
Night awakenings?	Yes, 2							

Sleep Hygiene

To treat sleep issues common to chronic pain and illness, use *sleep hygiene* to recover from pain-related sleep deprivation and establish healthy sleep practices. These tips improve sleep by reducing insomnia, night awakenings, and other sleep issues. If you use all these tips, you may still have challenges, but sleep won't be one of them!

- Get into bed only when sleepy.

  "Tired" and "sleepy" are not the same. You may feel fatigued and tired after a long day but still not be sleepy enough to fall asleep. Getting in bed before you're sleepy leads to lying there, frustrated and awake.

- Create a comfortable sleep environment.

  Make your room dark, cool, and quiet. Use curtains so sunlight won't wake you before wake time. Temperature is also important; have you noticed how hard it is to fall asleep on hot summer nights? Our bodies sleep better in cool rooms. Use a white-noise machine or fan to keep your bedroom quiet and peaceful.

- Use your bed only for sleep.

  Find another comfortable place to watch TV, read, or text. Let your brain associate bed *exclusively* with sleep. Why? Your brain quickly learns relationships between things. If you lie in bed awake, your brain will associate "bed" with "wakefulness." If you use your bed only for sleep, your brain will learn that "bed" = "unconscious and drooling"!

- Get out of bed after twenty minutes.

  If you can't fall asleep, don't lie in bed worrying. Get out of bed after approximately twenty minutes and do something calming: read a book on the couch, listen to relaxing music in a comfy chair. Get back into bed when you're sleepy. Why? The longer you lie in bed stressed about not sleeping, the higher anxiety gets. The higher anxiety gets, the less likely you are to sleep! Lying awake in bed for long periods also teaches your brain to associate bed with anxious wakefulness, rather than relaxed sleepiness.

- Have calming, soothing activities ready.

  When you can't sleep, don't search for something to do. Keep a coloring book, magazine, or headphones in a place that's comfortable and accessible, like next to your couch. Make sure to choose activities that are relaxing—like drawing or reading—rather than activating, like playing videogames or watching murder mysteries.

- Set a sleep time and wake time.

  Brains love routine. Waking up and falling asleep at the same time every day sets your SCN (biological clock). Consistent sleep and wake times are crucial, *especially* if you're not attending school—otherwise your clock will have no rhythm. The earlier you wake up, the earlier you'll be able to fall asleep! Why? Because your body craves balance, your brain is happiest when it has a routine—so turn it "off" and "on" at the same time every day. Regular sleep-wake times decrease sleep difficulties.

- Get exposure to sunlight.

  First thing in the morning, open your curtains and get sunlight. Your SCN, which triggers the release of "sleep" chemicals in the dark, breaks these down to signal "wake" in the light. This sets your biological clock, and reminds your brain that light = wake, dark = sleep.

- Don't take naps.

  Restrict sleep to nighttime only. As tempting as naps are, especially when you're in pain, teach your brain that "sleep" happens at night, and "awake" happens during the day. Napping partially satisfies sleep needs, which lessens your need to sleep at night.

- Don't check the time.

  Watching the clock only increases stress and anxiety: *It's 2 a.m.; I won't be able to function tomorrow!* The more anxious you get, the *less* likely you are to fall asleep—so cover your clocks and flip your phone.

- Have a relaxing pre-bedtime routine.

  Before bed, take a hot bath, read, do relaxation exercises or meditations. Avoid homework, screens, stimulating activities, and anything stressful immediately before bed. Make a list of relaxing, pre-bedtime activities you can try.

- Don't take your problems to bed.

  Do you ever lie in bed thinking through problems or worrying about things you need to do? Bedtime is a bad time to worry and problem solve. Pick a "worry time" a few hours before bed to write down concerns and to-dos.

- Exercise.

  Exercise regulates brain chemistry and helps your body feel tired. It also eats up stress hormones, like adrenaline, that your body produces during the day. Exercise earlier in the day and avoid exercising in the evening.

- Avoid caffeine and alcohol.

  These substances interfere with natural sleep-wake signals. If you're already having trouble sleeping, they will only get in the way of tuning in to your natural sleep signals.

- Avoid sugar and big meals before bed.

  Sugar and food are fuel that prepare your body for action! Teach your brain that nighttime is for slowing down, not revving up.

- Avoid sleeping in more than two hours on weekends.

  It's lovely to catch up on sleep, but what happens when your body gets used to staying up 'til one and sleeping until noon on Saturday and Sunday? By Sunday night, you can't fall asleep until late, so Monday morning feels miserable. This pattern leads to sleep deprivation, difficulty attending school, and increased pain. Limit extra weekend sleep to a few hours max.

- Avoid sleeping with pets.

  But they're so cute and fuzzy! True, but they also snore, kick, lick your face, and climb in and out of bed—which disturbs your sleep. No wonder you're so tired in the morning!

- No screens before bed.

  Limit screen time to two to three hours per day. Turn off screens an hour or two before bed and do something else (read, draw) instead. Remove screens from your bedroom at night; they're too tempting. Leave them in a basket in the kitchen or give them to your parents. Why? Blue light from screens suppresses melatonin, the brain chemical that regulates sleep. Low melatonin = less likely to fall asleep. Screens also stimulate your brain, providing sensory overload during a time when you should be helping your brain shut down. Lastly, screens turn on your SNS—and adrenaline is just no good for sleep. Brainstorm calming activities that don't involve screens, like the ones in this book!

Your Sleep Hygiene Plan

Sleep hygiene works best if you use all these tips, but if you need a place to start, pick two or three. Changing habits is hard and doesn't happen overnight. It's like building a muscle—it takes practice and time. Try a few and see how it goes!

Three sleep hygiene strategies you'll try this week:

1. _____
2. _____
3. _____

Daily bedtime this week: _____ p.m.

Daily wake time: _____ a.m.

Three relaxing, nonscreen activities for your pre-bedtime routine *(take a hot bath, read a magazine, listen to a body scan)*:

1. _____
2. _____
3. _____

Where you'll go if you can't fall asleep and need to get out of bed *(pillow pile in the corner of your room; living room couch)*:

_____

Relaxing activities you'll have ready in case you can't sleep *(headphones + music, coloring book)*:

_____

_____

Ideas for not looking at clocks *(turn bedside clock around, put phone facedown)*:

_____

Where you'll store screens before bed *(kitchen drawer, Mom's room)*:

_____

Exercise and the Brain

Why are people always telling me to exercise?

It can be annoying to hear doctor after doctor tell you to exercise—especially if you're in pain. As frustrating as it is, here's why they insist: Studies show that exercise increases energy and reduces fatigue among people with chronic pain and illness; stimulates muscles and bone repair; improves joint function; reduces

risk of developing chronic illnesses; improves sleep; and can reduce pain. There's more: Exercise helps your blood circulate, which provides your body with oxygen to support tissue repair, facilitates healing, and boosts immune functioning. It also bolsters self-esteem, decreases and prevents stress and anxiety, and lifts mood to reduce depression. Whew! That's a lot of stuff!

On the flip side, lack of movement leads to reduced immune functioning, stiffness and muscle tension, feeling weak and lethargic, decreased motivation, and increased, prolonged pain. Because of this, being sedentary—not exercising—is one of the biggest risk factors for developing lifelong chronic pain and illness. (All this research makes me want to go for a walk.)

In addition to healing your body, exercise changes…wait for it…your brain. (Surprise!) Exercise rewires your sensitive brain, stimulating the production of neurotransmitters that are part of the pain relief response, including:

Serotonin—regulates mood and other functions. When serotonin goes up, mood goes up, and pain volume is turned down. Most commonly prescribed antidepressant and antianxiety medications and some pain medications target serotonin.

Dopamine—transmits feelings of pleasure and reward to turn down your pain dial.

Endorphins—natural painkillers that muffle pain. Pain medications actually imitate the effects of endorphins! (Isn't it cool that your body created them first?)

Exercise regulates these neurotransmitters. It also eats up stress hormones, like adrenaline and cortisol, released during fight-or-flight to promote relaxation and healing. It may seem counterintuitive, but if you're sick or in pain, it's *especially* important to exercise.

If you've been inactive for weeks or months, remember to resume exercise slowly. Use your pacing plan (See chapter 3)! Go to physical therapy. Take a daily walk or try yoga, which combines stretching, strength-training, and mindful body awareness.

Sunlight and Nature Are Medicines

Pain and illness try to keep you stuck indoors without activity, exercise, friends, or sunlight. But there are reasons to fight back: Exposure to sunlight is critical for health. Sunshine regulates your sleep and wake cycles, increases serotonin to improve mood, and stimulates production of Vitamin D—which is critical for physical strength and healthy functioning. Sunlight may also provide protection against illnesses such as rheumatoid arthritis, asthma, and infectious diseases. Research suggests that nature can also positively impact mood, memory, attention, concentration, and ability to cope with pain. So whenever you schedule activities or practice coping exercises, consider doing them outside. *Sunlight and nature are medicines!*

Nutrition and Health

Food is your body's fuel source, like gas in a car. But food doesn't just give you energy: adequate nutrition is crucial for good health. Food contains nutrients like vitamins and minerals that help your body run smoothly, like a machine. For example, calcium, a mineral found in dairy products, helps strengthen and repair bones. It facilitates your immune system, helps blood clot, and allows brain cells to communicate. Without calcium, your brain and body simply wouldn't function.

Sometimes teens in pain eat less, skip meals, or develop unhealthy eating habits. This can cause exhaustion, fatigue, headaches, body aches, and pain. It can also lead to vitamin or mineral deficiencies, meaning your body is getting fewer nutrients than it needs. When you are deficient, your body is less able to manage pain. Deficiencies also prevent your immune system from functioning, increasing susceptibility to illness and making it harder for your body to fight off infections. *Being vitamin- and mineral-deficient can not only make you sick but also prevent you from getting well.*

Food, or lack of it, can also affect mood. Have you ever been hangry—so hungry you became irritable and angry? This is your body telling you that you're out of balance and need food! But not all foods are created equal: Some foods are healthier, while others are less helpful. For example, processed foods high in sugar and

preservatives, like fast food, soda, and sugar cereals, can exacerbate inflammation and trigger headaches. This doesn't mean you should stop eating all your favorite foods—it just means that you need to find a good balance. What you put into your body determines what you get out of your body.

Nutrition for Pain

When you're sick or in pain, it's important to eat a variety of fresh whole foods, including fruit, vegetables, whole grains, dairy products, lean proteins, and healthy fats. Here are some healthy foods that promote healing. Optimize your body's ability to fight pain and circle a few you're willing to try!

- Fruit: red grapes, blueberries, strawberries, apples, oranges, pears, cherries, bananas
- Vegetables: leafy greens, carrots, avocados, beets, broccoli, brussels sprouts, cabbage, cauliflower, kale
- Nuts: walnuts, almonds, pecans, peanuts
- Seeds: pumpkin, sunflower
- Whole grains: brown rice, lentils, oatmeal, quinoa, couscous, whole-wheat bread, pasta, popcorn
- Black beans
- Eggs
- Dairy: milk, yogurt, cheese
- Fish: salmon, tuna, trout, mackerel, herring
- Chicken soup (ask Grandma for her recipe!)
- Antioxidant tea: green tea, ginger tea
- Olive oil

Your Nutrition Plan

Three healthy foods you'll add to your diet this week:

1. _____

2. _____

3. _____

One unhealthy food you'll eat less of:

_____

Your plan to ensure three healthy meals a day *(Set a "meal alarm," tell your parents your nutrition plan, go shopping for groceries on the list)*:

_____

_____

_____

Ideas for integrating healthy foods into meals *(Add fruit to breakfast, switch to whole-grain bread for lunch, add a vegetable at dinner, snack on nuts instead of cookies)*:

_____

_____

_____

Social Support: Friends Are Medicine

Social support plays an important role in pain: it's one-third of the biopsychosocial model. Consider this: What punishment is worse than prison? It isn't homework (but good guess). If you misbehave in prison, you're put in solitary confinement—isolated in a room by yourself, with no contact or communication with anyone.

What does it say about humans that the worst punishment you can give us is isolation from others?

Humans are biologically programmed to be social, and healthy functioning depends on it. To survive in the wilderness when we were hunters and gatherers, we needed to collaborate, cooperate, and care for one another. Having more people around provided safety from predators and protected the tribe, and being alone for too long was dangerous. In fact, social behavior is so critical that your brain evolved a system to reward you for it: when you're social, your brain releases oxytocin, serotonin, and dopamine, chemicals that transmit feelings of happiness, connectedness, reward, and pleasure.

When teens are in pain, they're often cut off from friends and peers, and feel left out or left behind. When we're socially isolated, we become anxious, lonely, and depressed—negative emotions that increase pain volume. Social isolation also triggers the stress hormone cortisol, weakening your immune system. It's even thought that the pain of isolation and rejection is neurologically similar to physical pain. It's therefore important for your *physical* health to take care of your *social* health!

When you're sick or in pain, social support is more important than ever. Tap into your trusted support system—family, friends, teams, religious group—and spend time with people who adore you. If you don't have a ready-made support group, find activities that reduce isolation. How can you increase social support?

Here's what Sohita did:

> *Sohita had a maxillofacial condition that caused facial pain and drooping on the left side of her face. She felt embarrassed by how she looked and worried that people would be horrified by her appearance. As a result, she had trouble leaving the safe confines of her house. She was isolated and lonely, and felt sad and forgotten.*
>
> *Sohita loved playing board games, so her dad offered to take her to the game store to buy one. She wanted to go but was nervous she'd bump into someone from school. Her dad suggested going during school hours, when her peers were occupied, so she agreed. When Sohita stepped outside, no one stared. In the parking lot, no one ran away screaming. At the game store, no one pointed.*

The shop owners invited customers to sit down and try a new game. Sohita sat next to a girl her age, who smiled and said hi. Sohita started playing the game and talking to her new friend. It felt amazing. An hour later, her dad wanted to go home, but Sohita felt so good that she didn't want to leave. She and her new friend signed up for regular Wednesday game nights so they could see each other once a week. This experience reminded Sohita that her medical condition didn't have to control who she did or didn't talk to, and it didn't define her life. She felt so much more confident that she reached out to school friends and organized a game night at her house. Having friends helped her feel…normal!

To come up with your friends-are-medicine plan, circle any that might work and then add your own ideas.

- Text or call a friend.
- Find an online support group for teens with your same condition.
- Go to the local dog park and befriend dogs and their owners.
- Invite a friend over to watch a horror movie.
- Go to the local game store for game night.
- Start your own book club.
- Join a choir (even if you can't sing!).
- Sit on your front stoop and make friends with a neighbor.
- Invite a classmate out for ice cream.
- Ask your doctor to connect you with other teens with your condition, or to help you start a group/listserv.
- Start a garage band.
- Join your sports team for an outing, even if you can't play.
- Start a cupcake-baking company with friends.

- Join your local gym and take a class (yoga, spinning, Pilates).
- Get a group together to go to the movies.
- Take an art or computer-programming class.
- Join a lunchtime school club.
- Ask the barista at the café how her day is going.
- Sign up for a teen group at your local library.

Your ideas:

Conclusion

You're almost there, rock star! Now that you're armed with ways to improve your health by improving sleep, exercise, nutrition, and social support, let's put everything together. In the next chapter, we'll combine the different parts of this book to create a pain plan and some daily structure. This will help you stay motivated, organized, and on track. You got this!

Chapter 8

Putting It All Together

Bring It Home

We get better at the things we practice. For example, to get strong arms, lift weights at the gym every day, and soon you'll develop big muscles! If you want to be a "mathlete," practice math every day to become a math star. When you practice something, the brain pathways dedicated to that skill get bigger and stronger. This learning is the reason why the skills we practice become easier and more automatic.

If you want to break your pain cycle, rewire your pain system by establishing a *home-practice routine* and use coping skills—Every. Single. Day. To do this, pick a time and place to practice these skills, even if it's for just ten minutes. It takes a few days to establish a routine, but once you're in the habit of practicing daily, it's easier to keep it up! The most important time to practice is *when pain is low, medium, or absent*—that way, when you have an intense flare-up, your skills will be learned and automatic, and you'll be able to quickly and effectively tackle pain.

Victor's example:

Skill: Mindfulness

Daily practice time: 7:30 p.m. (after dinner but before homework)

Practice location: On the couch in the den

How you'll remember: Set phone alarm, practice with Marie-Helene

Your home practice:

Skill: _____

Daily practice time: _____

Practice location: _____

How you'll remember: _____

Five-Things Plan

You now have a boatload of strategies to improve your health by changing thoughts, emotions, coping strategies, sleep habits, nutrition, exercise, and social and school choices. One great way of putting this all together is to create a Five-Things Plan. Starting today, your mission is to do five things every day to help yourself feel better. Your five things can include any pain coping skill or activity that lowers pain volume and helps get your life back. These are the only guidelines: one thing needs to be *outdoors*, and one thing should be *physical* (you can combine these by exercising outside!). If you're trying to get back to school, pick one academic thing (reading, writing).

Step 1: Make your own personalized Five-Things menu.

Using strategies in this book combined with your own personal goals, make your own menu. For each skill, you can include multiple options for practicing that strategy, as seen on Amanda's menu on the next page. It's okay if some activities fit into two categories; for example, if riding your bike counts as pacing and also a pleasurable activity, you can list it as an option in both categories!

Amanda's Five-Things Menu

Skill	Options
Triggers and emotions	Track triggers, tea-kettle, complete pain recipe worksheet
Activity pacing	Complete pacing worksheet, walk around the block, ride stationary bike for 20 minutes, kick soccer ball outside for 30 minutes
Academic pacing	Attend one class at school daily, read a fun book at home for 20 minutes, do 15 minutes of math homework
Distraction	Complete distraction worksheet, pet puppies at pet store, return book at library, watch movie, draw
Pleasurable activity	Dance every day for 10 minutes, garden outside for 15 minutes, play catch with my dog for 20 minutes daily, paint, ride bike outside for 20 minutes
Biofeedback	Hand-warming
Relaxation, mindfulness	Mindfulness app, belly breathing, body scan, yoga, five-senses mindfulness
Imagery	Safe place imagery (imagine a beach), self-healing imagery
Catch and check thoughts	Thought tracking, thinking traps, detective questions
Change thoughts	Wise Voice, coping thoughts, gratitudes, ten good things, gray thoughts, imagine a miracle
Sleep hygiene	Bed at 11pm and wake at 7am daily, cover clocks, get out of bed after 20 minutes if anxious or not asleep
Nutrition	Eat one fruit or vegetable with each meal, replace cookies with nuts for snack
Social connection	Invite one friend over Friday for game night, swim with Sophia this weekend, call one friend

You can download a blank copy of this menu at http://www.newharbinger.com/33522.

Your Five-Things Menu

Skill	Options
Triggers and emotions	
Activity pacing	
Academic pacing	
Distraction	
Pleasurable activity	
Biofeedback	
Relaxation, mindfulness	
Imagery	
Catch and check thoughts	
Change thoughts	
Sleep hygiene	
Nutrition	
Social connection	
Other ideas	1. 2. 3.

Step 2: Establish a reward plan.

Ask your parents to participate in your plan by rewarding you for using five healthy coping skills each day (hopefully they'll say yes!). Rewards help motivate you and make things more fun. Brainstorm rewards you'd like to earn, from small to big, and make a "reward menu" that looks like a birthday wish-list. You can earn a small daily reward for doing five things (like extra screen time), or add up points after seven successful days to earn a larger reward at the end of the week (a trip, clothing).

Amanda's Reward Menu

1. 20 extra minutes of screen time
2. Slumber party
3. Red Velcro sneakers
4. Swim lessons
5. Trip to Yosemite with Dad

Your Reward Menu:

1. _____
2. _____
3. _____
4. _____
5. _____

Step 3: Select five skills to practice each day this week.

Put these in the chart below, along with the time and place you'll complete these skills. Put the chart somewhere visible—your wall, the fridge—as a daily reminder. Commit to using these skills every day for one week. Use the chart below to track

daily progress. You can adjust your Five Things the following week or keep the same ones, as long as one thing is exercise and one is outdoors! Then select a reward from the reward menu. For this example, Amanda and her dad decide she'll earn one point daily toward a Yosemite trip, worth a total of seven points. If she does Five Things every day for seven days, she earns the trip (1 point x 7 days = 7 points). Remember: rewards are only granted for doing *Five Things each day*. If you earned a reward today, log this in the bottom row. Next week, you can adjust your Five Things or keep the same ones. Amanda's Sunday chart below earned a point:

Amanda's Five Things for Sunday 8/16

Skill	Goal	Completed?
1. Activity pacing	Walk around the block at 9am for 20 minutes (exercise + outdoors)	Y
2. Relaxation, mindfulness	Mindfulness app: body scan at 8pm	Y
3. Cognitive	Write out Wise Voice coping thoughts at noon	Y
4. Nutrition	Eat one fruit or vegetable with each meal: grapes with breakfast, apple with lunch, carrots with dinner	Y
5. Social connection	Invite one friend over for game night on Friday	Y
Reward: 1 point toward Yosemite trip!		

You can download a blank copy of this chart at http://www.newharbinger.com/33522.

Your Five Things for (date) _____

Skill	Goal	Completed?
1.		
2.		
3.		
4.		
5.		
Reward:		

Step 4. Track weekly progress.

Use the table below to track weekly progress and rewards. For example, after one week, Amanda is close to earning her Yosemite trip, but isn't quite there because she used coping strategies only four days out of seven.

Amanda's Weekly Tracker

	Five things completed? (Y/N)	Reward (points or items)
Monday	Y	1 point
Tuesday	N	-
Wednesday	Y	1 point
Thursday	Y	1 point
Friday	N	-
Saturday	N	-
Sunday	Y	1 point
Total	**4 days**	**4 points**
Reward?	**N**	**(Almost there!)**

Your Weekly Tracker

	Five things completed? (Y/N)	Reward (points or items)
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		
Total		
Reward?		

Make a Pain Plan

When you feel calm and confident in the face of pain, a flare-up is much less scary. One way to feel prepared is to create a Pain Plan. A Pain Plan is your plan for a tough day that includes effective coping strategies that work for you. This will give you, your parents, doctors, and teachers a road map for how to handle a hard day. Make a plan for home and one for school.

Write out your plan with markers and colorful pen. Tape it to your fridge, put it in your backpack, give your parents a copy, and give one to your teacher or school nurse. This way, if you start feeling bad, everyone will calmly and confidently know exactly what to do—especially *you*.

Eli's pain plan for migraines looks like this:

Home	School
1. Hydrate, eat something	1. Hydrate, eat a granola bar
2. Lie down on the couch for twenty minutes	2. Lie down in nurse's office for twenty minutes
3. Cold pack on head	3. Cold pack on head
4. Relax: listen to guided workbook audio, use mindfulness apps, belly breathe, body scan	4. Relax: bring headphones to listen to mindfulness apps, belly breathe, body scan
5. Distract: hang out with the dog, finish puzzle, bake bread	5. Distract: listen to podcast, bring colored pencils to school and draw
6. Self-talk: "I've had 42 migraines in my life, I know I can get through this one. This won't last forever."	6. Self-talk: "I've had 42 migraines in my life, I know I can get through this one. This won't last forever."
7. Rescue meds for quick relief	7. Rescue meds for quick relief

You can download a blank pain plan at http://www.newharbinger.com/33522.

Your Pain Plan

Home	School

What to Do If You Can't Get Out of Bed

Sometimes teens with pain or illness feel stuck: stuck in bed, stuck at home, just stuck. It's too painful to get up, let alone go outside or go to school. To overcome this hurdle, use the Five-Step Bed Plan.

Step 1. Think about getting out of bed. Use *imagery*. Visualize yourself successfully standing up and walking around your room. Imagine the feeling of your feet on the floor.

Belly breathe: Take three slow, deep belly breaths.

Use self-talk. Notice *Pain Voice*. Listen for *thinking traps*. Talk back: state why they're not true. Tune into *Wise Voice* and use *hurt vs. harm*: "I've gotten out of

bed a million times before. Standing up and moving will not harm my body. Moving is the first step toward helping my pain."

Step 2. Move: Sit up. Get blood flowing to your legs by tensing and releasing your calf and thigh muscles. Press your legs and heels into the mattress, then squeeze them together. "Bicycle" your legs in the air while lying on your back.

Self-talk: "This is just my sensitive pain system giving me a false alarm. Moving hurts, but it won't harm me!"

Think of a reward you'll give yourself for getting out of bed: eating a delicious breakfast, watching a show, or cuddling the kitten. This is hard work!

Step 3. Hang your legs over the side of the bed. Let your feet touch floor. Notice how you feel (nervous, excited, overwhelmed) and what's happening in your head. What are you thinking?

Self-talk: Use encouraging, motivating *coping statements*: "I can do this! Just one small step at a time. Pain has been in control for too long. I'm taking control back."

Belly breathe: Take three slow, deep *belly breaths*.

Step 4. Stand up slowly. Hold on to something if you feel unsteady. Walk toward your reward! Scratch the cat, drink hot chocolate, get a hug from your mom. If you're tracking Five Things, make "get out of bed" a thing and give yourself points.

Step 5. Feel proud of yourself for fighting back against Pain Voice, who tells you "you can't." *You can!*

Pain Identity: Who Are You, Really?

It's easy for a teen's life to revolve around pain and illness. In fact, pain can consume your identity. Pain is the reason you don't see friends, stop playing sports, miss school, and lose touch with your community. It's the thing you think about most, the task demanding so much of your energy. Pain can take charge of everything—including who you are. As one teen said: "I'm the girl who spends weekends in the hospital, who's constantly trying new meds, who has to leave school early for

doctor's appointments. I'm the girl who's always sick and can't go to parties or on school trips. Sickness has overtaken every aspect of my life. *I am my illness*."

But now that you've read this book, you know that pain isn't in charge—*you are.* Pain no longer gets to dominate your identity or define who you are. You're about so much more! It's time to take your power back. Let's brainstorm what really defines you, who you *actually* are underneath that pain.

My identity:

People who are most important to me:

_____

_____

_____

Three things I love most in the whole world:

1. _____
2. _____
3. _____

What I like best about myself:

_____

_____

_____

My hobbies:

_____

_____

_____

Subject(s) I like to study most:

Favorite movies:

Favorite books:

Favorite foods:

People I feel most like myself around:

Three things that make me laugh:

1. _____
2. _____
3. _____

I'm really good at:

_____

_____

_____

My favorite memory:

_____

_____

_____

I'm an interesting person because:

_____

_____

_____

When I get older, I'd like to be (list as many ideas as you have!):

_____

_____

_____

You are so much more than your pain!

The Beginning

Ha! I bet you thought this was going to say "conclusion." Well, guess what: you've arrived at the beginning. True, it's the end of the workbook—congratulations, you are officially one step closer to a less stressful, less painful life! You hung in there, you did the work, and I am so proud of you. But though this book may be ending… *the rest of your life is just beginning*. You now carry these strategies with you wherever you go. Take them out into the world and use them, so that *you* are in charge of your pain!

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Apps and Websites to Lower Pain Volume

Practicing pain-control techniques is even easier when you have support and guidance. Here are some great resources that include guided audio for belly breathing, body scans, and other mindfulness and relaxation practices. These apps and websites are (currently) free. Try them all and see which ones you like!

Websites

Dr. Z's guided audio for this book: http://www.newharbinger.com/33522

Comfort-Ability, relaxation and mindfulness audio: https://www.thecomfortability.com/blogs/guided-exercises-mindfulness

Dr. Tonya Palermo's guided audio exercises for pain: http://www.seattlechildrens.org/research/child-health-behavior-and-development/pediatric-pain-and-sleep-innovations-lab/selected-recent-publications/

Dr. Dawn Buse's audio (under the "relaxation" tab): http://dawnbuse.com/relaxation.htm

Guided mindfulness-based stress reduction (MBSR) exercises (left side under "practices"): https://palousemindfulness.com/

UCLA's guided meditations: http://marc.ucla.edu/mindful-meditations

Dr. Z's website: http://www.zoffness.com

Apps

Stop Breathe Think: guided relaxation and meditations, plus an "emotional check-in." Exercises range from 3–15 minutes.

Headspace: relaxation and mindfulness audio.

Relax Melodies: guided meditations with music and nature sounds. Includes audio for sleep.

Breathe2Relax: teaches diaphragmatic breathing. Change "breath settings" to extend your exhale and facilitate greater relaxation.

Rain Rain: relaxing soundscapes for studying, relaxing and sleeping.

BellyBio Interactive Breathing: teaches and monitors belly breathing.

Lists of awesome apps: https://www.painbc.ca/recommended-apps-help-manage-persistent-pain and https://paindoctor.com/pain-diary-apps/

Additional Resources

American Pain Society: list of pediatric chronic pain programs (under "Additional Resources," http://americanpainsociety.org/get-involved/shared-interest-groups/pediatric-adolescent-pain)

Stopchildhoodpain.org: information on pain conditions and treatments

CarePath: apps and resources for understanding and managing pain (https://www.mycarepath.ca)

Coping Club: coping ideas for youths with pain and illness (http://copingclub.com)

Pain Bytes: pain management ideas for youths (https://www.aci.health.nsw.gov.au/chronic-pain/painbytes)

Child Kind: library of resources on pediatric pain (http://library.childkindinternational.org)

Rachel Zoffness, PhD, is a clinical psychologist, medical consultant, educator, and author specializing in chronic pain, medical illness, and injury. She provides cognitive behavioral therapy (CBT) to teens and adults, provides lectures and trainings, and serves as a consultant to hospitals and health professionals. Zoffness—also known as 'Dr. Z'—teaches at the University of California, San Francisco (UCSF) School of Medicine, providing pain neuroscience education to medical residents and interns. She was trained at Brown; Columbia; the University of California, San Diego; San Diego State University; the New York University Child Study Center; Mount Sinai West; and the Mindful Center.

Zoffness taught undergraduate psychology courses at San Diego State University, supervised therapists-in-training at the Wright Institute Berkeley Cognitive Behavioral Therapy Clinic, and has published extensively on evidence-based therapies. She serves on the steering committee of the American Association of Pain Psychology (AAPP), founded AAPP's pediatric division, and is a member of the East Bay Pediatrician's Journal Club. She collaborates with UCSF's Pediatric Brain Center, and Pain and Palliative Care Clinic; Stanford's Pediatric Pain Management Clinic; the Osher Center for Integrative Medicine; and consults on the development of international pain programs. When not seeing patients, Rachel can typically be found hiking and chasing butterflies.

Foreword writer **Elliot J. Krane, MD**, is a graduate of the University of Arizona College of Medicine, and completed his medical training in pediatrics and anesthesiology at Massachusetts General Hospital, and Boston Children's Hospital. He has held faculty positions at the University of Washington and Seattle Children's Hospital, where he and his colleague Donald C. Tyler, MD, started the first pain clinic for children in the US.

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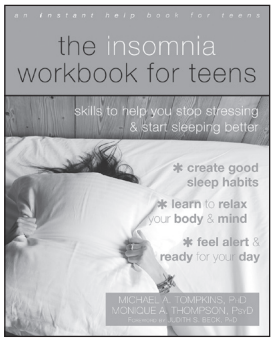

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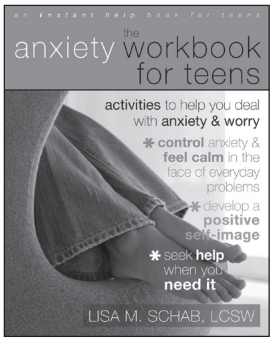

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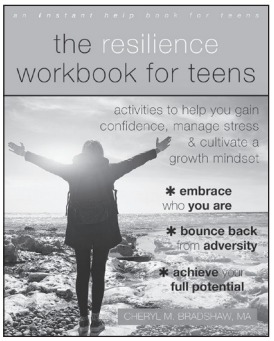

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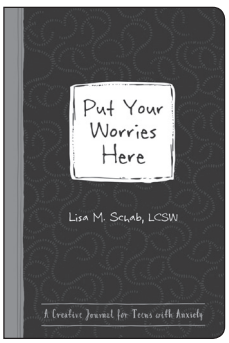

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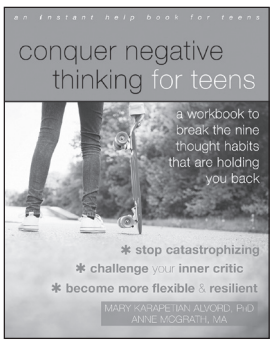

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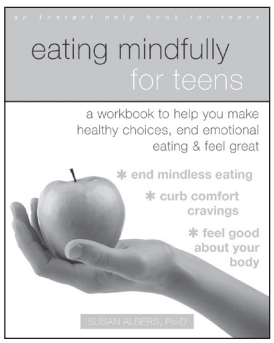

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take control of your pain, take control of your life

Living with chronic pain and illness can be difficult, scary, and sometimes lonely—especially when you're missing out on stuff other teens take for granted, like going to school, hanging out with friends, or playing sports. Fortunately, there *are* real tools you can use to feel better. Blending cognitive behavioral therapy (CBT), mindfulness, and other pain management tools, this workbook offers effective solutions to help you take control of your pain and get back to being *you*!

With this powerful workbook, you'll learn how pain affects both your mind and body, how negative emotions can make pain worse, and strategies to help you turn the volume down on pain, so you can go back to the activities you love. You'll also discover mindfulness and relaxation exercises, including belly breathing and body scan, to help manage pain in the moment. The exercises in this book are fun to learn and easy to practice. And the best part? You can carry them with you wherever you go. Take them out into the world and take charge of your pain—and your life!

"This workbook is stronger and more effective than any medication I know of for treating chronic pain."

—L. STEPHEN LONG, MD, medical director of complex pain, UCSF Benioff Children's Hospital Oakland

RACHEL ZOFFNESS, PhD, is a clinical psychologist, author, and educator specializing in chronic pain and illness. She treats teens and adults in her private practice, teaches medical school, and is a consultant to hospitals and health professionals.

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